

SEQUENCE LISTING

<110> Brachmann, Rainer

<120> ENGINEERED OPEN READING FRAME FOR P53

<130> 004255.00008

<160> 71

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 1182

<212> DNA

<213> Artificial sequence

<220>

<223> Produced by genetic engineering

<400> 1

| | | | | | | | | | | | | | |
|------------|----------|----------|--------|----------|-------|---------|--------|---------|----------|--------|--------|--------|------|
| atggaagaac | cacagtca | tcctagcg | tc | gaaccac | tc | tgagtca | gg | aa | cc | tttt | ca | 60 | |
| gacctgtg | ga | aattgtt | cc | tgaaa | aa | gttctgt | cc | cattgc | c | tcaag | caat | 120 | |
| gatgattt | g | tgctgt | cccc | agacgat | tt | gaacaat | gg | tcaactg | aa | tccagg | ccca | 180 | |
| gatgaag | ctc | cacgaat | gcc | agaggcc | cg | ccaccgg | tt | ccccag | cacc | agcag | ctcct | 240 | |
| acaccgg | cc | ccccag | ctcc | ggccccat | cc | tggc | ctgt | catctt | ctgt | ccctt | ccca | 300 | |
| aaaac | tacc | agggcag | cta | cggttcc | cg | ctggg | ctct | tgcatt | ctgg | aactg | ccaa | 360 | |
| tctgtt | actt | gtacgt | actc | tccagcc | cc | aacaag | atgt | tttgcc | aa | cgcga | agacc | 420 | |
| tgccc | agtt | aactgt | gggt | cgactcc | cc | ccttcac | ctgt | gtacac | gtgt | ccgcg | caat | 480 | |
| ccatct | aca | agcag | gcca | gcacat | ga | gagg | ctgtac | gacg | ctgtcc | acacc | atgag | 540 | |
| cgctg | ctca | gat | ctgtgg | tctgg | gc | ccac | agcatc | ttatcc | cgagt | ggaa | ggtaac | 600 | |
| ctac | gcgt | at | gtatct | aga | tgacc | gca | acttt | cgac | acagt | gtgt | ccat | 660 | |
| gagcc | acc | aa | gttgg | ctc | tgact | gc | accat | ccact | acaactat | at | gtgt | aacagt | 720 |
| tc | atgc | at | gg | catg | gaa | cc | ggcgg | cc | atc | tgc | act | t | 780 |
| tc | aggt | taat | c | tc | cttgc | gg | att | cc | tgc | ttt | gtc | at | 840 |
| gat | cc | cc | g | cc | aa | gg | atc | cc | g | gg | tc | cc | 900 |
| cc | cc | cc | g | cc | aa | gg | atc | cc | g | gg | tc | cc | 960 |
| aa | ac | cc | tt | cc | aa | gg | atc | cc | g | gg | tc | cc | 1020 |
| tt | cc | cc | gg | cc | aa | gg | atc | cc | g | gg | tc | cc | 1080 |
| gg | cag | cc | gt | cc | aa | gg | atc | cc | g | gg | tc | cc | 1140 |
| cc | cc | cc | gt | cc | aa | gg | atc | cc | g | gg | tc | cc | 1182 |
| aaaaa | act | gt | ttca | aa | gac | cg | aa | gg | gt | cc | cc | cc | |
| aaaaa | act | gt | ttca | aa | gac | cg | aa | gg | gt | cc | cc | cc | |

<210> 2

<211> 1182

<212> DNA

<213> Artificial sequence

<220>

<223> Produced by genetic engineering

<400> 2

| | | | | | | | | | | | | | |
|------------|----------|----------|--------|----------|-------|---------|--------|---------|----------|--------|--------|--------|------|
| atggaagaac | cacagtca | tcctagcg | tc | gaaccac | cc | tgagtca | gg | aa | cc | tttt | ca | 60 | |
| gatctgtg | ga | agctt | tt | tgaaa | aa | gttctgt | cc | cattgc | c | tcaag | caat | 120 | |
| gatgattt | g | tgctg | agcc | agacgat | tt | gaacaat | gg | tcaactg | aa | tccagg | ccca | 180 | |
| gatgaag | ctc | cacgaat | gcc | agaggcc | cg | ccaccgg | tt | ccccag | cacc | agcag | ctcct | 240 | |
| acaccgg | cc | ccccag | ctcc | ggccccat | cc | tggc | ctgt | catctt | ctgt | ccctt | ccca | 300 | |
| aaaac | tacc | agggcag | cta | cggttcc | cg | ctggg | ctct | tgcatt | ctgg | aactg | ccaa | 360 | |
| tctgtt | actt | gtacgt | actc | tccagcc | cc | aacaag | atgt | tttgcc | aa | cgcga | agacc | 420 | |
| tgccc | agtt | aactgt | gggt | cgactcc | cc | ccttcac | ctgt | gtacac | gtgt | ccgcg | caat | 480 | |
| ccatct | aca | agcag | gcca | gcacat | ga | gagg | ctgtac | gacg | ctgtcc | acacc | atgag | 540 | |
| cgctg | ctca | gat | ctgtgg | tctgg | gc | ccac | agcatc | ttatcc | cgagt | ggaa | ggtaac | 600 | |
| ctac | gcgt | at | gtatct | aga | tgacc | gca | acttt | cgac | acagt | gtgt | ccat | 660 | |
| gagcc | acc | aa | gttgg | ctc | tgact | gc | accat | ccact | acaactat | at | gtgt | aacagt | 720 |
| tc | atgc | at | gg | catg | gaa | cc | ggcgg | cc | atc | tgc | act | t | 780 |
| tc | aggt | taat | c | tc | cttgc | gg | att | cc | tgc | ttt | gtc | at | 840 |
| gat | cc | cc | g | cc | aa | gg | atc | cc | g | gg | tc | cc | 900 |
| cc | cc | cc | g | cc | aa | gg | atc | cc | g | gg | tc | cc | 960 |
| aa | ac | cc | tt | cc | aa | gg | atc | cc | g | gg | tc | cc | 1020 |
| tt | cc | cc | gg | cc | aa | gg | atc | cc | g | gg | tc | cc | 1080 |
| gg | cag | cc | gt | cc | aa | gg | atc | cc | g | gg | tc | cc | 1140 |
| cc | cc | cc | gt | cc | aa | gg | atc | cc | g | gg | tc | cc | 1182 |
| aaaaa | act | gt | ttca | aa | gac | cg | aa | gg | gt | cc | cc | cc | |
| aaaaa | act | gt | ttca | aa | gac | cg | aa | gg | gt | cc | cc | cc | |

433480_1

| | | | | | | |
|-------------|-------------|------------|------------|------------|------------|------|
| ctacgcgtgg | agtatctaga | tgaccgcaac | actttcgac | acagtgtgg | gggccatat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactatat | gtgtAACAGT | 720 |
| tcatgcattgg | gcggcatgaa | ccggcggccg | atccgtacca | tcatcactct | cgaggattcc | 780 |
| tcaggttaatc | tccttaggacg | gaattccctt | gaggtgcgtg | tttgcgtat | cccgccgc | 840 |
| gatgcgggaa | ccgaagagga | aatctccgg | aagaaagggt | agcctcacca | cgagctgcca | 900 |
| ccaggaagaca | ctaagcgagc | actgc当地 | aacaccagca | gttctccaca | gccaaagaag | 960 |
| aaacctttgg | acggagaata | tttc当地 | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaaagg | gtcagtc当地 | ctccgccat | 1140 |
| aaaaaaactga | gttcaagac | cgaaggctct | gactcagact | ga | | 1182 |

<210> 3

<211> 1181

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 3

| | | | | | | |
|-------------|-------------|-------------|------------|-------------|------------|------|
| atggaagaac | cacagtccaga | tcctagcg | gaaccacccc | tgagtcagga | aac | 60 |
| gatctgtgg | agcttcttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgagccc | agacgatatt | gaacaatgg | tcaactgagga | tccaggccc | 180 |
| gatgaagctc | cacgaatgcc | agaggccgt | ccaccgggt | ccccagcacc | agcagctcct | 240 |
| acaccggcgg | ccccagctcc | ggcccccattc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cggttccgt | ctgggcttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgccaaact | cgcgaagacc | 420 |
| tgcccagttcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgaatg | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgtac | gacgctgtcc | acaccatgag | 540 |
| cgctgctcag | attctgtatgg | tctggcgc | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcaac | actttcgac | acagtgtgg | gggccatat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactatat | gtgtAACAGT | 720 |
| tcatgcattgg | gcggcatgaa | ccggcggccg | atccgtacca | tcatcactct | cgaggattcc | 780 |
| tcaggttaatc | tccttaggacg | gaattccctt | gaggtgcgtg | tttgcgtat | cccgccgc | 840 |
| gatgcgggaa | ccgaagagga | aatctccgg | aagaaagggt | agcctcacca | cgagctgcca | 900 |
| ccaggaagaca | ctaagcgagc | actgc当地 | aacaccgagc | tttccacca | gccaaagaag | 960 |
| aaacctttgg | acggagaata | tttc当地 | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | cccattcg | tcacctgaag | tccaaaaagg | gtcagtc当地 | tagtc当地 | 1140 |
| aaaaaaactga | gttcaagac | cgaaggctct | gactcagact | ga | | 1181 |

<210> 4

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 4

| | | | | | | |
|-------------|-------------|-------------|------------|-------------|------------|-----|
| atggaagaac | cacagtccaga | tcctagcg | gaaccaccc | tgagtcagga | aac | 60 |
| gacctgtgg | aattgttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtccc | agacgatatt | gaacaatgg | tcaactgaga | tccaggccc | 180 |
| gatgaagctc | cacgaatgcc | agaggccgt | ccaccgggt | ccccagcacc | agcagctcct | 240 |
| acaccggcgg | ccccagctcc | ggcccccattc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cggttccgt | ctgggcttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgccaaact | cgcgaagacc | 420 |
| tgcccagttcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgaatg | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgtac | gacgctgtcc | acaccatgag | 540 |
| cgctgctcag | attctgtatgg | tctggcgc | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcaac | actttcgac | acagtgtgg | gggccatat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactatat | gtgtAACAGT | 720 |
| tcatgcattgg | gcggcatgaa | ccggcggccg | atccgtacca | tcatcactct | cgaggattcc | 780 |

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| | | | | | | |
|-------------|------------|------------|------------|-------------|------------|------|
| tcaggttaatc | tcctaggacg | gaattccctt | gagggtcggt | tttgcgtatg | cccgccgcgc | 840 |
| gatcgccgga | ccgaagagga | aatctccgg | aagaaagggt | agccctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgac | actgccaac | aacaccagca | gttctccaca | gccaaagaag | 960 |
| aaaccttgg | acggagaata | ttcacccctt | cagatccgt | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctgttaa | ggagccagga | 1080 |
| ggcagccgt | ctcatagcag | ccacctgaag | tccaaaagg | gtcagtctac | ctcccgccat | 1140 |
| aaaaaaactga | tgttcaagac | cgaaggtcct | gactcagact | ga | | 1182 |

<210> 5

<211> 1181

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 5

| | | | | | | |
|---------------|-------------|-------------|-------------|-------------|-------------|------|
| tggagaacc | acagtcagat | cctagcgtcg | aaccacctct | gagtcaggaa | accfffftag | 60 |
| acctgtggaa | attgttccct | gaaaacaacg | ttctgtcccc | attgcctagt | caagcaatgg | 120 |
| atgattttagt | gctgtccccca | gacgatattt | aacaatgggt | cactgaagat | ccaggcccag | 180 |
| atgaagctcc | acgaatgcca | gaggccgctc | caccgggtgc | cccagcacca | gcagctccct | 240 |
| caccggcgcc | cccagctccg | gccccatccct | ggcctctgtc | atcttctgtc | ccttcccaga | 300 |
| aaaccttacca | gggcagctac | ggtttccgtc | tgggcttctt | gcattctgga | actgccaagt | 360 |
| ctgttacttg | tacgtactct | ccagccctta | acaagatgtt | ttgccaactc | gcgaagacct | 420 |
| gcccagtcca | actgtgggtc | gactccaccc | ctccacctgg | tacacgtgtc | cgcgcaatgg | 480 |
| ccatctacaa | gcagagccag | cacatgacgg | aggctgtacg | acgctgtcca | caccatgagc | 540 |
| gctgctcaga | ttctgtatgg | ctggcgccac | cacagcatct | tatccgagtg | gaaggttaacc | 600 |
| tacgcgttgg | gtatcttagat | gaccgcaaca | cttttcgaca | cagtgtggtg | gtgccccatag | 660 |
| agccaccaga | agttggctct | gactgcacca | ccatccacta | caactatatg | tgtaacagtt | 720 |
| catgcgtgg | cggtcatgaac | cagccggccga | tcctgaccat | catcactctc | gaggattccct | 780 |
| caggtaatct | ccttaggacgg | aattcccttg | aggtgcgtgt | ttgtgcattgc | ccggggccgcg | 840 |
| atcgccggac | cgaagaggag | aatctccgg | agaaagggtga | gcctcacac | gagctgcccac | 900 |
| caggaagcac | taagcgagca | ctgccaaacaa | acaccagcag | ttctccacag | ccaaagaaga | 960 |
| aaccttgg | cggagaatat | ttcacccctt | agatccgtgg | ccgtgagcgg | ttcgagatgt | 1020 |
| tccgagagct | gaatgaggcc | ttagaactt | aggatgccc | ggctggtaag | gagccaggag | 1080 |
| gcagccgtgc | tcatagcagc | cacctgaagt | tccaaaagg | tcagtctacc | tcccccata | 1140 |
| aaaaaaactgtat | gttcaagacc | gaaggtcctg | actcagactg | a | | 1181 |

<210> 6

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 6

| | | | | | | |
|--------------|-------------|------------|-------------|-------------|-------------|-----|
| atggaaagaaac | cacagtcaga | tcctagcgtc | gaaccacctc | tgagtcagga | aacffffta | 60 |
| gacctgtgg | aattgttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgggt | tcaactgaaga | tccaggcccc | 180 |
| gatgaagctc | cacgaatgcc | agaggccgct | ccaccgggtt | ccccagcac | gcagactcc | 240 |
| acaccggcg | ccccagctcc | ggccccatcc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaaccttacc | agggcagcta | cggtttccgt | ctgggcttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgcctact | cgcgaaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcata | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgatc | gacgctgtcc | acaccatgag | 540 |
| cgctgctcag | attctgtatgg | tctggcgcc | ccacagcatc | ttatccgagt | ggaaggttaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcac | acttttcgac | acagtgtgg | ggtgcctat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactatat | tgtaacagtt | 720 |
| tcatgcgtgg | gcggcatgaa | ccggccggcc | atccgtacca | tcatcactct | cgaggattcc | 780 |
| tcaggttaatc | tcctaggacg | gaattccctt | gagggtgcacg | tttgcattgc | cccgccgcgc | 840 |
| gatcgccgg | ccgaagagga | aatctccgg | aagaaagggt | gcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgac | actgccaaac | aacaccagca | tttctccaca | gccaaagaag | 960 |

433480_1

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|------|
| aaaccttgg | acggagaata | tttcaccctt | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaaagg | gtcagtctac | ctccgcctat | 1140 |
| aaaaaaactga | tgttcaagac | cgaaggctct | gactcagact | ga | | 1182 |

<210> 7

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 7

| | | | | | | | | |
|------------|----------|----------|---------|---------|----------|------|-------|------|
| atggaagaac | cacagtca | tcctagcg | tc | gaaccac | tgagtcag | aac | tttca | 60 |
| gac | ctgtg | ga | aattgtt | cc | cattgc | tc | aa | 120 |
| gat | gttga | tg | tgctgt | cc | actgt | ca | agca | 180 |
| gat | aa | ag | agacgat | tt | ga | actg | aa | 240 |
| ac | ccgg | cc | ccacat | cc | cc | cc | cc | 300 |
| aa | ggc | gg | gggag | gg | cc | ct | cc | 360 |
| tctgtt | act | cc | cc | tt | gg | tt | cc | 420 |
| tgccc | act | cc | cc | cc | gg | cc | cc | 480 |
| ccatct | act | cc | cc | cc | cc | cc | cc | 540 |
| cgctg | att | cc | cc | cc | cc | cc | cc | 600 |
| ctac | cc | cc | cc | cc | cc | cc | cc | 660 |
| gagcc | aa | gg | gg | cc | cc | cc | cc | 720 |
| tc | cat | cc | cc | cc | cc | cc | cc | 780 |
| tc | aggt | cc | cc | cc | cc | cc | cc | 840 |
| gat | cc | cc | cc | cc | cc | cc | cc | 900 |
| cc | cc | cc | cc | cc | cc | cc | cc | 960 |
| aa | cc | cc | cc | cc | cc | cc | cc | 1020 |
| tcc | cc | cc | cc | cc | cc | cc | cc | 1080 |
| ggc | cc | cc | cc | cc | cc | cc | cc | 1140 |
| aaaaaa | act | cc | cc | cc | cc | cc | cc | 1182 |

<210> 8

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 8

| | | | | | | | | |
|------------|----------|----------|---------|---------|----------|------|-------|------|
| atggaagaac | cacagtca | tcctagcg | tc | gaaccac | tgagtcag | aac | tttca | 60 |
| gac | ctgtg | ga | aattgtt | cc | cattgc | tc | aa | 120 |
| gat | gttga | tg | tgctgt | cc | actgt | ca | agca | 180 |
| gat | aa | ag | agacgat | tt | ga | actg | aa | 240 |
| ac | ccgg | cc | ccacat | cc | cc | cc | cc | 300 |
| aa | ggc | gg | gggag | gg | cc | ct | cc | 360 |
| tctgtt | act | cc | cc | tt | gg | tt | cc | 420 |
| tgccc | act | cc | cc | cc | gg | cc | cc | 480 |
| ccatct | act | cc | cc | cc | cc | cc | cc | 540 |
| cgctg | att | cc | cc | cc | cc | cc | cc | 600 |
| ctac | cc | cc | cc | cc | cc | cc | cc | 660 |
| gagcc | aa | gg | gg | cc | cc | cc | cc | 720 |
| tc | cat | cc | cc | cc | cc | cc | cc | 780 |
| tc | aggt | cc | cc | cc | cc | cc | cc | 840 |
| gat | cc | cc | cc | cc | cc | cc | cc | 900 |
| cc | cc | cc | cc | cc | cc | cc | cc | 960 |
| aa | cc | cc | cc | cc | cc | cc | cc | 1020 |
| tcc | cc | cc | cc | cc | cc | cc | cc | 1080 |
| ggc | cc | cc | cc | cc | cc | cc | cc | 1140 |
| aaaaaa | act | cc | cc | cc | cc | cc | cc | 1182 |

433480_1

aaaaaaactga tttcaagac cgaaggctt gactcagact ga

1182

<210> 9

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 9

| | | | | | | | | | | |
|-------------|----------|----------|---------|---------|----------|----------|------|---------|-------|------|
| atggagaacac | cacagtca | tcctagcg | tc | gaaccac | ctc | tgagtcag | ga | aac | tttca | 60 |
| gac | ctgtg | ga | aattgtt | cc | tgaaaaca | gttctgt | ccc | cattgc | ctag | 120 |
| at | gat | ttt | ga | tgctgt | cccc | agacgat | att | gaacaat | tggt | 180 |
| gat | gaag | tc | cac | gaat | ccccc | agaggcc | ctt | ccacc | agcag | 240 |
| ac | ac | ggc | cc | ggcc | atcc | ggcc | ctgt | atctt | ctgt | 300 |
| aa | aa | cc | cc | ccat | cc | gg | ttgt | cc | ccat | 360 |
| aa | aa | cc | cc | cc | cc | gg | gg | cc | cc | 420 |
| tctgtt | actt | gtac | gtact | tcc | ccag | cccc | ttt | tgcc | act | 480 |
| tgccc | actt | gtcc | actt | cc | c | c | gtac | ac | cc | 540 |
| gc | ccat | taca | agc | ag | ca | ca | ac | cc | ccat | 600 |
| cg | ct | tc | at | ct | at | at | tt | at | cc | 660 |
| ct | ac | cg | tg | tt | cc | cc | gg | cc | ccat | 720 |
| gag | cc | cc | cc | cc | cc | cc | gg | cc | cc | 780 |
| tc | at | gc | at | cc | cc | cc | gg | cc | cc | 840 |
| tc | ag | gt | ta | cc | cc | cc | gg | cc | cc | 900 |
| gact | gg | cc | aa | gg | gg | gg | gg | cc | cc | 960 |
| cc | cc | gg | aa | gg | gg | gg | gg | cc | cc | 1020 |
| tt | cc | gg | aa | gg | gg | gg | gg | cc | cc | 1080 |
| gg | cc | gg | aa | gg | gg | gg | gg | cc | cc | 1140 |
| aaaaaa | act | gt | tt | ca | ag | ac | tt | cc | cc | 1182 |
| aaaaaa | act | gt | tt | ca | ag | ac | tt | cc | cc | |

<210> 10

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 10

| | | | | | | | | | | |
|-------------|----------|----------|---------|---------|----------|----------|------|---------|-------|------|
| atggagaacac | cacagtca | tcctagcg | tc | gaaccac | ctc | tgagtcag | ga | aac | tttca | 60 |
| gac | ctgtg | ga | aattgtt | cc | tgaaaaca | gttctgt | ccc | cattgc | ctag | 120 |
| at | gat | ttt | ga | tgctgt | cccc | agacgat | att | gaacaat | tggt | 180 |
| gat | gaag | tc | cac | gaat | ccccc | agaggcc | ctt | ccacc | agcag | 240 |
| ac | ac | ggc | cc | ggcc | atcc | ggcc | ttgt | cc | ccat | 300 |
| aa | aa | cc | cc | ccat | cc | gg | gg | cc | cc | 360 |
| aa | aa | cc | cc | cc | cc | gg | gg | cc | cc | 420 |
| tctgtt | actt | gtac | gtact | tcc | ccag | cccc | ttt | tgcc | act | 480 |
| tgccc | actt | gtcc | actt | cc | c | c | gtac | ac | cc | 540 |
| gc | ccat | taca | agc | ag | ca | ca | ac | cc | ccat | 600 |
| cg | ct | tc | at | ct | at | at | tt | at | cc | 660 |
| ct | ac | cg | tg | tt | cc | cc | gg | cc | cc | 720 |
| gag | cc | cc | cc | cc | cc | cc | gg | cc | cc | 780 |
| tc | at | gc | at | cc | cc | cc | gg | cc | cc | 840 |
| tc | ag | gt | ta | cc | cc | cc | gg | cc | cc | 900 |
| gact | gg | cc | aa | gg | gg | gg | gg | cc | cc | 960 |
| cc | cc | gg | aa | gg | gg | gg | gg | cc | cc | 1020 |
| tt | cc | gg | aa | gg | gg | gg | gg | cc | cc | 1080 |
| gg | cc | gg | aa | gg | gg | gg | gg | cc | cc | 1140 |
| aaaaaa | act | gt | tt | ca | ag | ac | tt | cc | cc | 1182 |
| aaaaaa | act | gt | tt | ca | ag | ac | tt | cc | cc | |

<210> 11

433480_1

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 11

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|------|
| atggaagaac | cacagtcaga | tcctagcgtc | gaaccacctc | tgagtcagga | aacctttca | 60 |
| gacctgtgga | aattgctcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgg | tcactgaaga | tccaggccca | 180 |
| gatgaagctc | cacgaatgcc | agaggccgt | ccaccgggt | ccccagcacc | agcaagctcct | 240 |
| acaccggcgg | ccccagctcc | ggcccccattc | tggcctctgt | catcttctgt | cccttccag | 300 |
| aaaaccttacc | agggcagact | cggtttccgt | ctgggcttct | tgcatcttgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgccaaact | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcaatg | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgtac | gacgctgtcc | acaccatgag | 540 |
| cgctgctcag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcac | acttttcgac | acagtgtgg | ggtgccatat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactatat | gtgtaaacagt | 720 |
| tcatgcattgg | gctctatgaa | ccggcggccg | atccctgacca | tcatcactct | cgaggattcc | 780 |
| tcaggtatcc | tccttaggacg | gaatttccctt | gaggtcgtg | tttgcgtatg | cccgccgcgc | 840 |
| gatgcggcgg | ccgaagagga | gaatctccgg | aagaaagggt | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | gccaaagaag | 960 |
| aaacctttgg | acggagaata | tttcacccctt | cagatccgt | gccgtgagcg | gttcgagatg | 1020 |
| ttcccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaaagg | gtcagtctac | ctccgcctat | 1140 |
| aaaaaaactga | tgttcaagac | cgaaggctct | gactcagact | ga | | 1182 |

<210> 12

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 12

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|------|
| atggaagaac | cacagtcaga | tcctagcgtc | gaaccacctc | tgagtcagga | aacctttca | 60 |
| gacctgtgga | aattgctcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgg | tcactgaaga | tccaggccca | 180 |
| gatgaagctc | cacgaatgcc | agaggccgt | ccaccgggt | ccccagcacc | agcaagctcct | 240 |
| acaccggcgg | ccccagctcc | ggcccccattc | tggcctctgt | catcttctgt | cccttccag | 300 |
| aaaaccttacc | agggcagact | cggtttccgt | ctgggcttct | tgcatcttgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgccaaact | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcaatg | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgtac | gacgctgtcc | acaccatgag | 540 |
| cgctgctcag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcac | acttttcgac | acagtgtgg | ggtgccatgc | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactatat | gtgtaaacagt | 720 |
| tcatgcattgg | gctctatgaa | ccggcggccg | atccctgacca | tcatcactct | cgaggattcc | 780 |
| tcaggtatcc | tccttaggacg | gaatttccctt | gaggtcgtg | tttgcgtatg | cccgccgcgc | 840 |
| gatgcggcgg | ccgaagagga | gaatctccgg | aagaaagggt | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | gccaaagaag | 960 |
| aaacctttgg | acggagaata | tttcacccctt | cagatccgt | gccgtgagcg | gttcgagatg | 1020 |
| ttcccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaaagg | gtcagtctac | ctccgcctat | 1140 |
| aaaaaaactga | tgttcaagac | cgaaggctct | gactcagact | ga | | 1182 |

<210> 13

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 13

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|------------|------|
| atggaagaac | cacagtcaga | tcctagcgtc | gaaccacctc | tgagtcagga | aaccctttca | 60 |
| gaccctgtgga | aattgcttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgg | tcactgaaga | tccaggccca | 180 |
| gatgaagctc | cacgaatgcc | agaggccgct | ccaccgggtt | ccccagcacc | agcagctcct | 240 |
| acaccggcgg | ccccagctcc | ggcccccattc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cggtttccgt | ctgggcttct | tgcatctctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgccaaact | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcccata | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgtac | gacgcttccc | acaccatgag | 540 |
| cgctgcttag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcaac | acttttcgac | acagtgtgg | ggtccat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactat | gtgtacacgt | 720 |
| tcatgcattgg | gcggcatgaa | ccggcggccg | atccctgacca | tcatcactct | cgaggattcc | 780 |
| ttaggtatc | tccttaggacg | gaattccctt | gaggtcgtg | tttgcacatg | cccgccgcgc | 840 |
| gatcgccgg | ccgaagagga | aatctccgg | aagaaagggt | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | gccaaagaag | 960 |
| aaaccttgg | acggagaata | tttcacccctt | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaaagg | gtcagtctac | ctccgcctat | 1140 |
| aaaaaactga | tgttcaagac | cgaaggtcct | gactcagact | ga | | 1182 |

<210> 14

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 14

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|------------|------|
| atggaagaac | cacagtcaga | tcctagcgtc | gaaccacctc | tgagtcagga | aaccctttca | 60 |
| gaccctgtgga | aattgcttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgg | tcactgaaga | tccaggccca | 180 |
| gatgaagctc | cacgaatgcc | agaggccgct | ccaccgggtt | ccccagcacc | agcagctcct | 240 |
| acaccggcgg | ccccagctcc | ggcccccattc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cggtttccgt | ctgggcttct | tgcatctctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgccaaact | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcccata | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgtac | gacgcttccc | acaccatgag | 540 |
| cgctgcttag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcaac | acttttcgac | acagtgtgg | ggtccat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactat | gtgtacacgt | 720 |
| tcatgcattgg | gcggcatgaa | ccggcggccg | atccctgacca | tcatcactct | cgaggattcc | 780 |
| ttaggtatc | tccttaggacg | gaattccctt | gaggtcgtg | tttgcacatg | cccgccgcgc | 840 |
| gatcgccgg | ccgaagagga | aatctccgg | aagaaagggt | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | gccaaagaag | 960 |
| aaaccttgg | acggagaata | tttcacccctt | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaaagg | gtcagtctac | ctccgcctat | 1140 |
| aaaaaactga | tgttcaagac | cgaaggtcct | gactcagact | ga | | 1182 |

<210> 15

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 15

| | | | | | | | | | | | | | | | | |
|------------|----------|------------|---------|--------|---------|-------|-------|---------|------|--------|-----|--------|-----|------|--------|------|
| atggaagaac | cacagtca | tcctagcgtc | gaaccac | ctc | tgagtca | gga | aac | ctttca | 60 | | | | | | | |
| gac | ctgtg | ga | aatt | gttcc | tgaaa | acaac | gtt | ctgtccc | catt | gcctag | tca | agcaat | g | 120 | | |
| at | gat | ttt | ga | tgctgt | cccc | agac | gat | att | ga | acaat | tg | actga | aga | tcc | aggccc | 180 |
| gat | gaag | ctc | cac | gaat | gcc | agg | ggcc | gt | ccac | ccg | gtt | ccc | agc | acc | agcag | 240 |
| acac | ccgg | cg | ccc | agct | cc | gg | ccat | cc | cc | gtt | cc | ct | tt | ctgt | cc | 300 |
| aaa | ac | ctacc | agg | gag | ct | gg | ttt | cc | gg | gtt | cc | tt | ct | gg | tt | 360 |
| tct | gtt | actt | gt | acgt | tcc | ag | cc | cc | tt | aca | ag | at | gt | act | cc | 420 |
| tgcc | cag | tcc | aact | gttgg | cg | act | cc | acc | c | c | ttc | acc | ctg | gt | cc | 480 |
| ccat | ct | taca | agc | ag | gcca | ca | cat | gac | g | gg | tc | gt | cc | ac | ccat | 540 |
| cg | ct | g | att | ctgtat | gg | tct | gg | cc | ac | ac | at | cc | gg | at | g | 600 |
| ctac | cg | gtt | at | at | ct | ta | gg | ca | ac | ttt | cg | ac | gt | tt | ccat | 660 |
| gag | cc | acc | ag | tttgg | ctc | act | gttgg | cc | at | cg | ac | at | cc | at | at | 720 |
| tc | at | gat | gg | gttgg | cc | g | act | cc | cc | at | cc | at | ct | cc | at | 780 |
| tc | agg | ta | atc | tc | ctt | atc | gg | ttt | gg | gt | cc | tt | cc | gg | cc | 840 |
| gat | cg | cc | gg | gg | aa | at | ctt | cc | gg | at | gg | cc | tc | cc | ca | 900 |
| cc | ag | gg | aa | gag | gg | aa | at | ctt | cc | gg | at | gg | cc | tc | cc | 960 |
| cc | ag | gg | aa | act | gg | aa | ct | cc | gg | at | gg | cc | tc | cc | ca | 1020 |
| ttcc | cg | ag | gg | ac | gg | tt | ca | cc | tt | gg | cc | gg | at | gg | cc | 1080 |
| gg | cag | cc | gt | tc | at | ag | cc | ac | cc | gg | tt | gg | tt | gg | cc | 1140 |
| aaaa | aa | act | gt | ttca | ag | ac | cg | gtt | cc | gg | tt | gg | tt | gg | cc | 1182 |
| aaaa | aa | act | gt | ttca | ag | ac | cg | gtt | cc | gg | tt | gg | tt | gg | cc | |

<210> 16

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 16

| | | | | | | | | | | | | | | | | |
|------------|----------|------------|---------|--------|---------|-------|-------|---------|------|--------|-----|--------|------|-----|--------|------|
| atggaagaac | cacagtca | tcctagcgtc | gaaccac | ctc | tgagtca | gga | aac | ctttca | 60 | | | | | | | |
| gac | ctgtg | ga | aatt | gttcc | tgaaa | acaac | gtt | ctgtccc | catt | gcctag | tca | agcaat | g | 120 | | |
| at | gat | ttt | ga | tgctgt | cccc | agac | gat | att | ga | acaat | tg | actga | aga | tcc | aggccc | 180 |
| gat | gaag | ctc | cac | gaat | gcc | agg | ggcc | gt | ccac | ccg | gtt | ccc | agc | acc | agcag | 240 |
| acac | ccgg | cg | ccc | agct | cc | gg | ccat | cc | cc | gtt | cc | tt | ctgt | cc | 300 | |
| aaa | ac | ctacc | agg | gag | ct | gg | ttt | cc | gg | gtt | cc | tt | ct | gg | tt | 360 |
| tct | gtt | actt | gt | acgt | tcc | ag | cc | cc | tt | aca | ag | at | gt | act | cc | 420 |
| tgcc | cag | tcc | aact | gttgg | cg | act | cc | acc | c | c | ttc | acc | ctg | gt | cc | 480 |
| ccat | ct | taca | agc | ag | gcca | ca | cat | gac | g | gg | tc | gt | cc | ac | ccat | 540 |
| cg | ct | g | att | ctgtat | gg | tct | gg | cc | ac | ac | tt | cc | gg | at | g | 600 |
| ctac | cg | gtt | at | at | ct | ta | gg | ca | ac | ttt | cg | ac | gt | tt | ccat | 660 |
| gag | cc | acc | ag | tttgg | ctc | act | gttgg | cc | at | cg | ac | at | cc | at | at | 720 |
| tc | at | gat | gg | gttgg | cc | g | act | cc | cc | at | cc | at | ct | cc | at | 780 |
| tc | agg | ta | atc | tc | ctt | atc | gg | ttt | gg | gt | cc | tt | cc | gg | cc | 840 |
| gat | cg | cc | gg | gg | aa | at | ctt | cc | gg | at | gg | cc | tc | cc | ca | 900 |
| cc | ag | gg | aa | gag | gg | aa | at | ctt | cc | gg | at | gg | cc | tc | cc | 960 |
| cc | ag | gg | aa | act | gg | aa | ct | cc | gg | at | gg | cc | tc | cc | ca | 1020 |
| ttcc | cg | ag | gg | ac | gg | tt | ca | cc | tt | gg | cc | gg | at | gg | cc | 1080 |
| gg | cag | cc | gt | tc | at | ag | cc | ac | cc | gg | tt | gg | tt | gg | cc | 1140 |
| aaaa | aa | act | gt | ttca | ag | ac | cg | gtt | cc | gg | tt | gg | tt | gg | cc | 1182 |
| aaaa | aa | act | gt | ttca | ag | ac | cg | gtt | cc | gg | tt | gg | tt | gg | cc | |

<210> 17

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 17

atggaagaac cacagtca

60

433480_1

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|------------|------|
| gacctgtgga | aattgcttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatggt | tcactgaaga | tccaggccca | 180 |
| gatgaagctc | cacgaatgcc | agaggccgct | ccaccgggtt | ccccagcacc | agcagctcct | 240 |
| acaccggcgg | ccccagctcc | ggcccccattc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cggtttccgt | ctgggcttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgccaaact | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcaatg | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgtac | gacgctgtcc | acaccatgag | 540 |
| cgctgctcag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcAAC | acttttcgac | acagtgtgg | gttgcacat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactat | gtgtacacgt | 720 |
| tcatgcattgg | gccccatgaa | ccggcggccg | atccctgacca | tcatcactct | cgaggattcc | 780 |
| ttaggttaatc | tccttaggacg | gaattccctt | gaggtcgtgt | tttgcacat | cccgccgcgc | 840 |
| gatcgccgga | ccaaaggagga | gaatctccgg | aagaaagggt | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | gccaaagaag | 960 |
| aaacctttgg | acggagaata | tttcacccctt | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaagg | gtcagtctac | ctcccgccat | 1140 |
| aaaaaactga | tgttcaagac | cgaaggcttct | gactcagact | ga | | 1182 |

<210> 18

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 18

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|------------|------|
| atggaagaac | cacagtcaga | tcctagcg | gaaccac | tgcaggaa | aac | 60 |
| gacctgtgga | aattgcttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatggt | tcactgaaga | tccaggccca | 180 |
| gatgaagctc | cacgaatgcc | agaggccgct | ccaccgggtt | ccccagcacc | agcagctcct | 240 |
| acaccggcgg | ccccagctcc | ggcccccattc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cggtttccgt | ctgggcttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgccaaact | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcaatg | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgtac | gacgctgtcc | acaccatgag | 540 |
| cgctgctcag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcAAC | acttttcgac | acagtgtgg | gttgcacat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactat | gtgtacacgt | 720 |
| tcatgcattgg | gagacatgaa | ccggcggccg | atccctgacca | tcatcactct | cgaggattcc | 780 |
| ttaggttaatc | tccttaggacg | gaattccctt | gaggtcgtgt | tttgcacat | cccgccgcgc | 840 |
| gatcgccgga | ccgaaggagga | gaatctccgg | aagaaagggt | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | gccaaagaag | 960 |
| aaacctttgg | acggagaata | tttcacccctt | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaagg | gtcagtctac | ctcccgccat | 1140 |
| aaaaaactga | tgttcaagac | cgaaggcttct | gactcagact | ga | | 1182 |

<210> 19

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 19

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| atggaagaac | cacagtcaga | tcctagcg | gaaccac | tgcaggaa | aac | 60 |
| gacctgtgga | aattgcttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatggt | tcactgaaga | tccaggccca | 180 |
| gatgaagctc | cacgaatgcc | agaggccgct | ccaccgggtt | ccccagcacc | agcagctcct | 240 |

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| | | | | | | |
|-------------|-------------|--------------|------------|------------|------------|------|
| acaccggcgg | ccccagctcc | ggcccccattcc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cggttccgt | ctgggcttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgcact | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcaatg | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgtac | gacgctgtcc | acaccgtgag | 540 |
| cgctgcttag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcac | acttttcgac | acagtgtgg | ggtgccatat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactat | gtgtaacagt | 720 |
| tcatgcatgg | gcggcatgaa | ccggcggccg | atcctgacca | tcatcactct | cgaggattcc | 780 |
| ttaggttaatc | tccttaggacg | gaattccctt | gaggtcgtg | tttgcatt | cccgccgc | 840 |
| gatcgccgga | ccgaagagga | gaatctccgg | aagaaagggt | agcctcacca | cgcgtgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | gccaagaag | 960 |
| aaacctttgg | acggagaata | tttcacccctt | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaagg | gtcagtctac | ctccgcctat | 1140 |
| aaaaaactga | tgttcaagac | cgaaggctt | gactcagact | ga | | 1182 |

<210> 20

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 20

| | | | | | | |
|-------------|-------------|--------------|------------|------------|------------|------|
| atggagaaac | cacagtca | tccttagcgtc | gaaccaccc | tgagtca | ggaa | 60 |
| gacctgtgg | aattgttcc | tgaaaaaca | gttctgtccc | cattgcct | tc | 120 |
| atgatttga | tgctgtccc | agacgatatt | gaacaatgg | tcaactgaa | tccaggcc | 180 |
| atgaaagctc | cacgaatg | ccagggccgt | ccaccgg | ccccagcacc | agcagctc | 240 |
| acaccggcgg | ccccagctcc | ggcccccattcc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cggttccgt | ctgggcttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgcact | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcaatg | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgtac | gacgctgtcc | acaccatgag | 540 |
| cgctgcttag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcac | acttttcgac | acagtgtgg | ggtgccatat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactat | gtgtaacagt | 720 |
| tcatgcatgg | gcggcatgaa | ccggcggccg | atcctgacca | tcatcactct | cgaggattcc | 780 |
| ttaggttaatc | tccttaggacg | gaattccctt | gaggtcgtg | tttgcatt | cccgccgc | 840 |
| gatcgccgga | ccgaagagga | gaatctccgg | aagaaagggt | agcctcacca | cgcgtgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | gccaagaag | 960 |
| aaacctttgg | acggagaata | tttcacccctt | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaagg | gtcagtctac | ctccgcctat | 1140 |
| aaaaaactga | tgttcaagac | cgaaggctt | gactcagact | ga | | 1182 |

<210> 21

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 21

| | | | | | | |
|------------|------------|--------------|------------|------------|------------|-----|
| atggagaaac | cacagtca | tccttagcgtc | gaaccaccc | tgagtca | ggaa | 60 |
| gacctgtgg | aattgttcc | tgaaaaaca | gttctgtccc | cattgcct | tc | 120 |
| atgatttga | tgctgtccc | agacgatatt | gaacaatgg | tcaactgaa | tccaggcc | 180 |
| atgaaagctc | cacgaatg | ccagggccgt | ccaccgg | ccccagcacc | agcagctc | 240 |
| acaccggcgg | ccccagctcc | ggcccccattcc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cggttccgt | ctgggcttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgcact | cgcgaagacc | 420 |

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| | | | | | | |
|-------------|-------------|-------------|-------------|------------|-------------|------|
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcaatg | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgatc | gacgctgtcc | acaccatgag | 540 |
| cgctgctca | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |
| ctacgcgtgg | agtgcctaga | tgaccgcaac | actttcgac | acagtgtgtt | ggtgccatat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactatat | gtgtaacagt | 720 |
| tcatgcgtgg | gcggcatgaa | ccggcgccg | atcctgacca | tcatcactct | cgaggattcc | 780 |
| tcaaggtaatc | tccttaggacg | gaattccctt | gaggtcgatg | tttgcgtatg | cccgggcccgc | 840 |
| gatcgccgga | ccgaagagga | gaatctccgg | aagaaagggtg | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | gccaaagaag | 960 |
| aaacctttgg | acggagaata | tttccacccct | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaagg | gtcagtctac | ctccgccat | 1140 |
| aaaaaactga | tgttcaagac | cgaaggctct | gactcagact | ga | | 1182 |

<210> 22

<211> 1181

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 22

| | | | | | | |
|--------------|-------------|-------------|-------------|-------------|-------------|------|
| tggaagaacc | acagtcagat | cctagcgtcg | aaccacctct | gagtcaggaa | acctttcag | 60 |
| acctgtggaa | attgtttccct | gaaaacaacg | ttctgtcccc | attgcctagt | caagcaatgg | 120 |
| atgattttagt | gctgtccccca | gacgatattg | aacaatggtt | cactgaagat | ccaggcccag | 180 |
| atgaagctcc | acgaatgcca | gaggccgctc | caccgggtgc | cccagcacca | gcagctccata | 240 |
| taccggcggc | cccagctccg | gccccatccct | ggcctctgtc | atcttctgtc | ccttcccaga | 300 |
| aaaccttacca | gggcagctac | gttttccgtc | tgggttcttt | gcattctgga | actgccaagt | 360 |
| tgttacttg | tacgtactct | ccagccctta | acaagatgtt | ttgccaactc | gccaagacct | 420 |
| gcccagtc | actgtgggtc | gactccaccc | ctccacctgg | tacacgtgtc | ctcgcatgg | 480 |
| ccatctacaa | gcagagccag | catgtacgg | aggtcgatcg | acgtcttcca | caccatgagc | 540 |
| gctgctcaga | ttctgtatgg | ctggcgccac | cacagcatct | tatccgatgt | gaaggtaacc | 600 |
| tacgcgtgg | gtatcttagat | gaccgcaaca | ctttcgaca | cagtgtggtg | gtccatatg | 660 |
| agccaccaga | agttggctct | gactgacca | ccatccacta | caactatatg | tgttaacagtt | 720 |
| catgcatggg | cgccatgaac | cgccggccga | tcctgaccat | catcactctc | gaggattccct | 780 |
| caggtaatct | ccttaggacgg | aattcccttg | aggtcgatgt | ttgtgcgtatg | ccgggcccgc | 840 |
| atcgccggac | cgaaggaggag | aatctccgga | agaaagggtga | gcctcaccac | gagctgcccac | 900 |
| taggaagcac | taagcgagca | ctgccaaaca | acaccagcag | ttctccacag | ccaaagaaga | 960 |
| aacctttgg | cggagaatat | ttcacccttc | agatccgtgg | ccgtgagcgg | ttcgagatgt | 1020 |
| cccgagagct | gaatgaggcc | ttagaactt | aggatgccc | ggctgttaag | gagccaggag | 1080 |
| cgagccgtgc | tcatagcagc | cacctgaatg | ccaaaagg | tcagtctacc | tcccgccata | 1140 |
| aaaaaactgtat | gttcaagacc | gaaggctct | actcagact | ga | | 1181 |

<210> 23

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 23

| | | | | | | |
|------------|-------------|------------|------------|------------|------------|-----|
| atggaagaac | cacagtcaga | tcctagcgtc | gaaccacctc | tgagtcagga | aacctttca | 60 |
| gacctgtgg | aattgtttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatggt | tcactgaaga | tccaggccc | 180 |
| gatgaagctc | cacgaatgcc | agaggccgct | ccaccgggt | ccccagcac | gcagctccct | 240 |
| acaccggcgg | ccccagctcc | ggccccatcc | tggctctgt | catcttctgt | ccttcccag | 300 |
| aaaaccttac | agggcagcta | cggtttccgt | ctgggcttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgcact | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcaatg | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgatc | gacgctgtcc | acaccatgag | 540 |
| cgctgctca | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |

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| | | | | | | |
|-------------|-------------|-------------|------------|------------|-------------|------|
| ctacgcgtgg | agtatctaga | tgaccgcaac | actttcgac | acagtgtgg | ggtgccatat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactatat | gtgtaaacagt | 720 |
| ttctgcattgg | gcggcatgaa | ccggcggccg | atcctgacca | tcatcactct | cgaggattcc | 780 |
| tcaaggtatc | tccttaggacg | gaattccctt | gaggtgcgtg | tttgcattg | cccgccgc | 840 |
| gatcgccgga | ccgaagagga | aatctccgg | aagaagggtg | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | gccaaagaag | 960 |
| aaaccttgg | acggagaata | tttcacccctt | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaaagg | gtcagtctac | ctccgccat | 1140 |
| aaaaaaactga | tgttcaagac | cgaaggctct | gactcagact | ga | | 1182 |

<210> 24

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 24

| | | | | | | | | |
|-------------|------------|------------|------------|---------|--------|--------|----------|------|
| atggaaagaac | cacagtcaga | tcctagcgtc | gaaccaccc | tgagtca | gg | aac | ttttca | 60 |
| gac | ctgtgg | aattgttcc | tgaaaaca | gttctgt | ccc | catt | gcctag | 120 |
| gtat | tttga | tgctgtccc | agacgatatt | gaacaat | gg | tca | actgaa | 180 |
| gtat | ggctc | cacgaatg | ccaggccg | ccacc | gg | cc | caggcc | 240 |
| acacc | ggcg | ccccagct | ggccccc | tgg | ctgt | cat | ttctgt | 300 |
| aaa | ac | ttacc | aggcag | ctgtt | ccgt | tgc | attctg | 360 |
| tct | gttact | gtacgt | ccagcc | tttgc | tttgc | tttgc | actgtgtt | 420 |
| tgcc | cgtcc | aactgt | gggt | ccact | cc | cc | ccgtgt | 480 |
| ccat | tctaca | agcag | gcca | ccat | gac | gtc | ccat | 540 |
| cg | ctcg | attctg | atgg | tctgg | ccac | ttat | ccgag | 600 |
| ctac | gcgt | gtat | ctaga | gca | actt | ccg | gttgc | 660 |
| gagc | cacc | aatt | tttgc | ccat | ccat | ccat | ccat | 720 |
| tc | atg | tttgc | tgact | ccat | ccat | ccat | ccat | 780 |
| tc | atg | tcct | tagg | atgg | tttgc | tttgc | cccg | 840 |
| gtat | ggcc | ggcc | ggag | ggat | tttgc | tttgc | cccg | 900 |
| ccag | ggca | ctaa | ggag | ggat | ccat | ccat | ccat | 960 |
| aaac | cttgg | acgg | gaga | tttc | ccat | ccat | ccat | 1020 |
| ttcc | cgag | tga | atgg | ccat | ccat | ccat | ccat | 1080 |
| ggc | agccgt | ctca | tagc | ccac | ttcc | ttcc | ttcc | 1140 |
| aaaaaa | actga | tgtt | caagac | cgaagg | gtcagt | gtcagt | gtcagt | 1182 |

<210> 25

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 25

| | | | | | | | | |
|-------------|------------|------------|------------|---------|--------|--------|----------|------|
| atggaaagaac | cacagtcaga | tcctagcgtc | gaaccaccc | tgagtca | gg | aac | ttttca | 60 |
| gac | ctgtgg | aattgttcc | tgaaaaca | gttctgt | ccc | catt | gcctag | 120 |
| gtat | tttga | tgctgtccc | agacgatatt | gaacaat | gg | tca | actgaa | 180 |
| gtat | ggctc | cacgaatg | ccaggccg | ccacc | gg | cc | caggcc | 240 |
| acacc | ggcg | ccccagct | ggccccc | tgg | ctgt | cat | ttctgt | 300 |
| aaa | ac | ttacc | aggcag | ctgtt | ccgt | tgc | attctg | 360 |
| tct | gttact | gtacgt | ccagcc | tttgc | tttgc | tttgc | actgtgtt | 420 |
| tgcc | cgtcc | aactgt | gggt | ccact | cc | cc | ccgtgt | 480 |
| ccat | tctaca | agcag | gcca | ccat | gac | gtc | ccat | 540 |
| cg | ctcg | attctg | atgg | tctgg | ccac | ttat | ccgag | 600 |
| ctac | gcgt | gtat | ctaga | gca | actt | ccg | gttgc | 660 |
| gagc | cacc | aatt | tttgc | ccat | ccat | ccat | ccat | 720 |
| tc | atg | tttgc | tgact | ccat | ccat | ccat | ccat | 780 |
| tc | atg | tcct | tagg | atgg | tttgc | tttgc | cccg | 840 |
| gtat | ggcc | ggcc | ggag | ggat | ccat | ccat | ccat | 900 |
| ccag | ggca | ctaa | ggag | ggat | tttc | tttc | tttc | 960 |
| aaac | cttgg | acgg | gaga | tttc | ccat | ccat | ccat | 1020 |
| ttcc | cgag | tga | atgg | ccat | ccat | ccat | ccat | 1080 |
| ggc | agccgt | ctca | tagc | ccac | ttcc | ttcc | ttcc | 1140 |
| aaaaaa | actga | tgtt | caagac | cgaagg | gtcagt | gtcagt | gtcagt | 1182 |

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| | | | | | | |
|-------------|-------------|-------------|------------|------------|------------|------|
| tcaggtaatc | tccttaggacg | gaattcctt | gaggtgcgtg | tttgcata | ccggggccgc | 840 |
| gatcgccgga | ccgaagagga | gaatctccgg | aagaagggtg | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaaac | aacaccagca | gttctccaca | gccaaagaag | 960 |
| aaacctttgg | acggagaata | tttcacccctt | cagatccgtg | gccgtgagcg | ttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaaagg | gtcagtctac | ctccgcctat | 1140 |
| aaaaaaactga | tgttcaagac | cgaaggctt | gactcagact | ga | | 1182 |

<210> 26

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 26

| | | | | | | |
|-------------|-------------|-------------|------------|------------|------------|------|
| atggaagaac | cacagtcaga | tcctagcgtc | gaaccaccc | tgagtcagga | aacctttca | 60 |
| gacctgttgg | aattgtttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgg | tcactgaaga | tccaggccca | 180 |
| gatgaagctc | cacgaatgcc | agaggccgt | ccaccgggt | ccccagcacc | agcagctcct | 240 |
| acaccggcgg | ccccagctcc | ggcccccattt | tggctctgt | catcttctgt | cccttccag | 300 |
| aaaaccttacc | agggcagcta | cggtttccgt | ctgggcttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgcact | cgcaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | gcacgcaatg | 480 |
| gccatctaca | agcagagcc | gcacatgacg | gaggtcgtac | gacgctgtcc | acaccatgag | 540 |
| cgctgctcag | attctgtatgg | tctggcgcctt | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcaac | acttttcgac | acagtgtgg | ggtgccatat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactatat | gtgtAACAGT | 720 |
| tcatgcattgg | gccccatgaa | ccggcggccg | atccgtacca | tcatcactt | cgaggattcc | 780 |
| ttaggtatc | tccttaggacg | gaattcctt | gaggtgcgtg | tttgcata | ccggggccgc | 840 |
| gatcgccgga | ccgaagagga | gaatctccgg | aagaagggtg | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaaac | aacaccagca | gttctccaca | gccaaagaag | 960 |
| aaacctttgg | acggagaata | tttcacccctt | cagatccgtg | gccgtgagcg | tttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaaagg | gtcagtctac | ctccgcctat | 1140 |
| aaaaaaactga | tgttcaagac | cgaaggctt | gactcagact | ga | | 1182 |

<210> 27

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 27

| | | | | | | |
|-------------|-------------|-------------|------------|------------|------------|-----|
| atggaagaac | cacagtcaga | tcctagcgtc | gaaccaccc | tgagtcagga | aacctttca | 60 |
| gacctgttgg | aattgtttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgg | tcactgaaga | tccaggccca | 180 |
| gatgaagctc | cacgaatgcc | agaggccgt | ccaccgggt | ccccagcacc | agcagctcct | 240 |
| acaccggcgg | ccccagctcc | ggcccccattt | tggctctgt | catcttctgt | cccttccag | 300 |
| aaaaccttacc | agggcagcta | cggtttccgt | ctgggcttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgcact | cgcaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcaatg | 480 |
| gccatctaca | agcagagcc | gcacatgacg | gaggtcgtac | gacgctgtcc | acaccatgag | 540 |
| cgctgctcag | attctgtatgg | tctggcgcctt | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcaac | acttttcgac | acagtgtgg | ggtgccatat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactatat | gtgtAACAGT | 720 |
| tcatgcattgg | gccccatgaa | cctgaggccg | atccgtacca | tcatcactt | cgaggattcc | 780 |
| ttaggtatc | tccttaggacg | gaattcctt | gaggtgcgtg | tttgcata | ccggggccgc | 840 |
| gatcgccgga | ccgaagagga | gaatctccgg | aagaagggtg | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaaac | aacaccagca | gttctccaca | gccaaagaag | 960 |

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| | | | | | | |
|-------------|------------|------------|------------|------------|------------|------|
| aaacctttgg | acggagaata | tttcaccctt | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgcc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaaagg | gtcagtctac | ctcccgccat | 1140 |
| aaaaaaactga | tgttcaagac | cgaaggctct | gactcagact | ga | | 1182 |

<210> 28

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 28

| | | | | | | |
|-------------|-------------|------------|------------|------------|-------------|------|
| atggaagaac | cacagtcaga | tcctagcgtc | gaaccacctc | tgagtcagga | aacctttca | 60 |
| gacctgtgga | aattgttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgg | tcactgaaga | tccaggccca | 180 |
| gatgaagctc | cacgaatgcc | agaggccgt | ccaccgggtt | ccccagcacc | agcagctcct | 240 |
| acaccggcgg | ccccagctcc | ggccccatcc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cggtttccgt | ctggccttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgcact | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcaatg | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgtac | gacgctgtcc | acactacgag | 540 |
| cgctgctcag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcAAC | acttttcgac | acagtgtgtt | ggtgcataat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactat | gtgttaacagt | 720 |
| tcatgcattgg | gcggcatgaa | ccggcgccg | atcctgacca | tcatcactct | cgaggattcc | 780 |
| tcaggttaatc | tccttaggacg | gaattccctt | gaggtcgtg | tttgcgtatg | cccgccgcgc | 840 |
| gatcgccgg | ccgaagagga | aatctccgg | aagaaagggt | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaaggcgagc | actgccaac | aacaccagca | gttctccaca | gccaaagaag | 960 |
| aaacctttgg | acggagaata | tttcaccctt | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgcc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaaagg | gtcagtctac | ctcccgccat | 1140 |
| aaaaaaactga | tgttcaagac | cgaaggctct | gactcagact | ga | | 1182 |

<210> 29

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 29

| | | | | | | |
|-------------|-------------|------------|------------|------------|-------------|------|
| atggaagaac | cacagtcaga | tcctagcgtc | gaaccacctc | tgagtcagga | aacctttca | 60 |
| gacctgtgga | aattgttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgg | tcactgaaga | tccaggccca | 180 |
| gatgaagctc | cacgaatgcc | agaggccgt | ccaccgggtt | ccccagcacc | agcagctcct | 240 |
| acaccggcgg | ccccagctcc | ggccccatcc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cggtttccgt | ctggccttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgcact | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcaatg | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgtac | gacgctgtcc | acaccatgag | 540 |
| cgctgctcag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcAAC | acttttcgac | acagtgtgtt | ggtgcataat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactat | gtgttaacagt | 720 |
| tcatgcattgg | gcggcatgaa | ccggcgccg | atcctgacca | tcatcactct | cgaggattcc | 780 |
| tcaggttaatc | tccttaggacg | gaattccctt | gaggtcgtg | tttgcgtatg | cccgccgtacc | 840 |
| gatcgccgg | ccgaagagga | aatctccgg | aagaaagggt | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaaggcgagc | actgccaac | aacaccagca | gttctccaca | gccaaagaag | 960 |
| aaacctttgg | acggagaata | tttcaccctt | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgcc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaaagg | gtcagtctac | ctcccgccat | 1140 |

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aaaaaaactga tggcaagac cgaaggcct gactcagact ga

1182

<210> 30

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 30

| | | | | | | | | | | | | | | | |
|-------------|------------|----------|----|----|-------|-----|----|------|-----|----|----|-----|----|----|------|
| atggagaagac | cacagtcaga | tcctagcg | tc | ga | accac | ctc | tg | agtc | agg | a | ac | ctt | tt | ca | 60 |
| gac | ctgt | gg | a | tt | gtt | cc | c | tt | gtt | cc | tt | tt | tt | ca | 120 |
| gat | gat | tt | g | t | g | cc | c | tt | gtt | cc | tt | tt | tt | ca | 180 |
| gat | ga | g | c | c | g | cc | c | tt | gtt | cc | tt | tt | tt | ca | 240 |
| ac | ac | cc | gg | cc | gg | cc | cc | tt | gtt | cc | tt | tt | tt | ca | 300 |
| aaa | aa | cc | tt | cc | tt | cc | cc | tt | gtt | cc | tt | tt | tt | ca | 360 |
| agg | gg | cc | gg | cc | gg | cc | cc | tt | gtt | cc | tt | tt | tt | ca | 420 |
| tct | tt | tt | tt | tt | tt | tt | tt | tt | gtt | cc | tt | tt | tt | ca | 480 |
| tg | cc | cc | cc | cc | cc | cc | cc | cc | gt | cc | tt | tt | tt | ca | 540 |
| gc | cc | cc | cc | cc | cc | cc | cc | cc | ac | cc | tt | tt | tt | ca | 600 |
| cg | ct | ct | ct | ct | ct | ct | ct | ct | tt | cc | tt | tt | tt | ca | 660 |
| at | tc | tc | tc | tc | tc | tc | tc | tc | at | cc | tt | tt | tt | ca | 720 |
| gat | tc | tc | tc | tc | tc | tc | tc | tc | tt | cc | tt | tt | tt | ca | 780 |
| gg | cc | cc | cc | cc | cc | cc | cc | cc | tt | cc | tt | tt | tt | ca | 840 |
| cc | gg | cc | gg | cc | gg | cc | cc | cc | tt | cc | tt | tt | tt | ca | 900 |
| cc | gg | cc | gg | cc | gg | cc | cc | cc | tt | cc | tt | tt | tt | ca | 960 |
| cc | gg | cc | gg | cc | gg | cc | cc | cc | tt | cc | tt | tt | tt | ca | 1020 |
| tt | cc | cc | gg | cc | gg | cc | cc | cc | tt | cc | tt | tt | tt | ca | 1080 |
| gg | cc | cc | gg | cc | gg | cc | cc | cc | tt | cc | tt | tt | tt | ca | 1140 |
| gg | cc | cc | gg | cc | gg | cc | cc | cc | tt | cc | tt | tt | tt | ca | 1182 |

<210> 31

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 31

| | | | | | | | | | | | | | | | |
|-------------|------------|----------|----|----|-------|-----|----|------|-----|----|----|-----|----|----|------|
| atggagaagac | cacagtcaga | tcctagcg | tc | ga | accac | ctc | tg | agtc | agg | a | ac | ctt | tt | ca | 60 |
| gac | ctgt | gg | a | tt | gtt | cc | c | tt | gtt | cc | tt | tt | tt | ca | 120 |
| gat | gat | tt | g | t | g | cc | c | tt | gtt | cc | tt | tt | tt | ca | 180 |
| gat | ga | g | c | c | g | cc | c | tt | gtt | cc | tt | tt | tt | ca | 240 |
| ac | ac | cc | gg | cc | gg | cc | cc | tt | gtt | cc | tt | tt | tt | ca | 300 |
| aaa | aa | cc | tt | cc | tt | cc | cc | tt | gtt | cc | tt | tt | tt | ca | 360 |
| agg | gg | cc | gg | cc | gg | cc | cc | tt | gtt | cc | tt | tt | tt | ca | 420 |
| tct | tt | tt | tt | tt | tt | tt | tt | tt | gt | cc | tt | tt | tt | ca | 480 |
| tg | cc | cc | cc | cc | cc | cc | cc | cc | ac | cc | tt | tt | tt | ca | 540 |
| gc | cc | cc | cc | cc | cc | cc | cc | cc | tt | cc | tt | tt | tt | ca | 600 |
| cg | ct | ct | ct | ct | ct | ct | ct | ct | at | cc | tt | tt | tt | ca | 660 |
| at | tc | tc | tc | tc | tc | tc | tc | tc | tt | cc | tt | tt | tt | ca | 720 |
| gat | tc | tc | tc | tc | tc | tc | tc | tc | tt | cc | tt | tt | tt | ca | 780 |
| gg | cc | cc | cc | cc | cc | cc | cc | cc | tt | cc | tt | tt | tt | ca | 840 |
| cc | gg | cc | gg | cc | gg | cc | cc | cc | tt | cc | tt | tt | tt | ca | 900 |
| cc | gg | cc | gg | cc | gg | cc | cc | cc | tt | cc | tt | tt | tt | ca | 960 |
| cc | gg | cc | gg | cc | gg | cc | cc | cc | tt | cc | tt | tt | tt | ca | 1020 |
| tt | cc | cc | gg | cc | gg | cc | cc | cc | tt | cc | tt | tt | tt | ca | 1080 |
| gg | cc | cc | gg | cc | gg | cc | cc | cc | tt | cc | tt | tt | tt | ca | 1140 |
| gg | cc | cc | gg | cc | gg | cc | cc | cc | tt | cc | tt | tt | tt | ca | 1182 |

<210> 32

433480_1

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 32

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|--------------|------|
| atggaagaac | cacagtcaga | tcctagcgtc | gaaccacctc | tgagtcagga | aacctttca | 60 |
| gacctgtgga | aattgtttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgg | tcactgaaga | tccaggccca | 180 |
| gatgaagctc | cacgaatgcc | agaggccgt | ccaccgggt | ccccagcacc | agcagctcct | 240 |
| acaccggcgg | ccccagctcc | ggcccccattc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cggtttccgt | ctgggcttct | tgcatcttgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tcacggccctt | aacaagatgt | tttgccaaact | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcaatg | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgtac | gacgctgtcc | acaccatgag | 540 |
| cgctgctcag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggttaac | 600 |
| ctacgcgtgg | agtatctaga | tgacccgcaac | acttttcgac | acagtgtgg | ggtgccatat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactatat | gtgttaacagt | 720 |
| tcatgcattgg | gcggcatgaa | ccggatgccc | atccctgacca | tcatcactct | cgaggattcc | 780 |
| tcaaggtaatc | tccttaggacg | gaattccctt | gaggtcgtgt | tttgcacatg | cccgccggccgc | 840 |
| gatcgccgg | ccgaagagga | gaatctccgg | aagaaagggt | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | gccaaagaag | 960 |
| aaacctttgg | acggagaata | tttcacccctt | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttcccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaaagg | gtcagtctac | ctcccgccat | 1140 |
| aaaaaactga | tgttcaagac | cgaaggtcct | gactcagact | ga | | 1182 |

<210> 33

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 33

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|--------------|------|
| atggaagaac | cacagtcaga | tcctagcgtc | gaaccacctc | tgagtcagga | aacctttca | 60 |
| gacctgtgga | aattgtttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgg | tcactgaaga | tccaggccca | 180 |
| gatgaagctc | cacgaatgcc | agaggccgt | ccaccgggt | ccccagcacc | agcagctcct | 240 |
| acaccggcgg | ccccagctcc | ggcccccattc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cggtttccgt | ctgggcttct | tgcatcttgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tcacggccctt | aacaagatgt | tttgccaaact | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcaatg | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgtac | gacgctgtcc | acaccatgag | 540 |
| cgctgctcag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggttaac | 600 |
| ctacgcgtgg | agtatctaga | tgacccgcaac | acttttcgac | acagtgtgg | ggtgccatat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactatat | gtgttaacagt | 720 |
| tcatgcattgg | gcggcatgaa | ccggccggccg | atccctgacca | tcatcactct | cgaggattcc | 780 |
| tcaaggtaatc | tccttaggacg | gaattccctt | gaggtcgtgt | tttgcacatg | cccgccggccgc | 840 |
| gatcgccgg | ccgaagagga | gaatctccgg | aagaaagggt | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | gccaaagaag | 960 |
| aaacctttgg | acggagaata | tttcacccctt | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttcccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaaagg | gtcagtctac | ctcccgccat | 1140 |
| aaaaaactga | tgttcaagac | cgaaggtcct | gactcagact | ga | | 1182 |

<210> 34

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 34

| | | | | | | |
|-------------|-------------|------------|------------|----------|------------|------|
| atggaaagaac | cacagtca | tccttagcg | gaaccac | tgagtca | aac | 60 |
| gacctgttga | aattgttcc | tgaaaaca | gttctgt | cattgc | tcaagca | 120 |
| gatgatttga | tgctgtccc | agacgatatt | gaacaatgg | tcactga | tccaggccc | 180 |
| gatgaagtc | cacgaatg | agaggccg | ccaccgg | ccccagc | acagactc | 240 |
| acaccggcg | ccccagctc | ggccccat | tggcctgt | catcttct | cccttcccag | 300 |
| aaaacctacc | agggcagct | cggtttcc | ctgggctt | tgcattct | aactgc | 360 |
| tctgttactt | gtacgtact | tccagcc | aacaagat | tttgccaa | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccac | cctccac | gtacacgt | ccgcgc | 480 |
| gccatctaca | agcagagcc | gcacatgac | gaggtcg | gacgtcg | acaccat | 540 |
| cgctgctcag | attctgtatgg | tctggc | ccacagcat | ttatccg | ggaaggta | 600 |
| ctacgcgtgg | agtatctaga | tgaccgc | actttcgac | acagtgt | ggtgccat | 660 |
| gagccaccag | aagttggc | tgactgc | accatccac | acaactat | gtgtaa | 720 |
| tcatgcattgg | gcggcatgaa | ccggcgcc | atcttgac | tcatca | cgaggat | 780 |
| tcaggttaatc | tccttaggac | gaattcc | gagatcg | tttgtc | cccg | 840 |
| gatgcggcga | ccgaagagga | gaatctcc | aaagaaagg | agcctc | cgagct | 900 |
| ccaggaagca | ctaagcgagc | actgcca | aacaccag | gttctcc | gcca | 960 |
| aaaccttgg | acggagaata | tttcac | cagatcc | gccgtg | agcg | 1020 |
| ttcccgagagc | tgaatgaggc | cttagaa | aaggatg | aggctgg | aa | 1080 |
| ggcagccgt | ctcatagcag | ccacctg | tccaaaaagg | gtcag | tctcc | 1140 |
| aaaaaaactga | tgttcaagac | cgaaagg | gactcagact | ga | | 1182 |

210> 35

<211> 1182

<212> DNA

*213> Artificial Sequence

220>

<223> Produced by genetic engineering

<400> 35

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|------------|------|
| atggaaagaac | cacagtca | tccttagcgtc | gaaccacctc | tgagtca | aacctttca | 60 |
| gaccgtgtga | aattgtctcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgattgt | tgctgtcccc | agacgatatt | gaacaatggt | tcactgaaga | tccaggcccc | 180 |
| gatgaagctc | cacaatgcc | agaggccgt | ccaccgggtt | ccccagcacc | agcagctcct | 240 |
| acccggcg | ccccagtc | ggggccatcc | tggcctctgt | catcttcgt | ccctttccaa | 300 |
| aaaacctacc | agggcagcta | cgttccgt | ctgggcttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgccaaact | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcata | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgatc | gacgctgtcc | acaccatgag | 540 |
| cgctgcttag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcaac | acttttcgac | acagtgtgg | gggccatata | 660 |
| gagccaccag | aagtggctc | tgactgcacc | accatccact | acaactata | gttaaacagt | 720 |
| tcatgcatgg | gcggcatgaa | ccggcggccg | atcctgacca | tcatcactct | cgaggattcc | 780 |
| tcaggtaatc | tccctaggacg | gaattccctt | gaggtgcgtg | tttgcatg | cccgccgc | 840 |
| gatgcggcga | ccggaaaagga | gaatctccgg | aagaaaagggt | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgacg | actgccaac | aaacccaggca | gttctccaca | gccaaagaag | 960 |
| aaaccttgg | acggagaata | tttcacccct | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatggcc | aggctgttaa | ggagccagg | 1080 |
| ggcagccgt | ctcatagcag | ccacctgaa | tccaaaaagg | gtcagtc | ctcccgccat | 1140 |
| aaaaaaactqa | tqtcaaqac | cqaaggctc | qactcaqact | qa | | 1182 |

<210> 36

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 36

| | | | | | | |
|-------------|-------------|-------------|-------------|------------|-------------|------|
| atggaagaac | cacagtcaga | tcctagcgtc | gaaccaccc | tgagtcagga | aacctttca | 60 |
| gacctgtgga | aattgtttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgg | tcactgaaga | tccaggccca | 180 |
| gatgaagctc | cacgaatgcc | agaggccgt | ccaccgggt | ccccagcacc | agcagctcct | 240 |
| acaccggcg | ccccagctcc | ggcccccattc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cggtttccgt | ctgggcttct | tgcatctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgccaact | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcaatg | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtccctgc | gacgctgtcc | acaccatgag | 540 |
| cgctgctcag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggttaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcaac | acttttcgac | acagtgtgtt | gttgccat | 660 |
| gagccaccag | aagtttggctc | tgactgcacc | accatccact | acaactat | gtgtacagt | 720 |
| tcatgcattgg | gcgtcatgaa | ccggcgccg | atccctgacca | tcatcactt | cgaggattcc | 780 |
| tcaggttaatc | tccttaggacg | gaattccctt | gaggtcgctg | tttgcgtatg | cccgccgc | 840 |
| gatgcccgga | ccgaagagga | gaatctccgg | aagaaagggt | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaaac | aacaccagca | gttctccaca | gccaaagaag | 960 |
| aaacctttgg | acggagaata | tttcacccctt | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | tttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaaagg | gtcagtctac | ctccgcctat | 1140 |
| aaaaaaactg | tgttcaagac | cgaaggctt | gactcagact | ga | | 1182 |

<210> 37

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 37

| | | | | | | |
|-------------|-------------|-------------|-------------|------------|-------------|------|
| atggaagaac | cacagtcaga | tcctagcgtc | gaaccaccc | tgagtcagga | aacctttca | 60 |
| gacctgtgga | aattgtttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgg | tcactgaaga | tccaggccca | 180 |
| gatgaagctc | cacgaatgcc | agaggccgt | ccaccgggt | ccccagcacc | agcagctcct | 240 |
| acaccggcg | ccccagctcc | ggcccccattc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cggtttccgt | ctgggcttct | tgcatctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgccaact | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcaatg | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgatc | gacgctgtcc | acaccatgag | 540 |
| cgctgctcag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggttaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcaac | acttttcgac | acagtgtgtt | gttgccat | 660 |
| gagccaccag | aagtttggctc | tgactgcacc | accatccact | acaactat | gtgtacagt | 720 |
| tcatgcattgg | gcgtcatgaa | ccggcgccg | atccctgacca | tcatcactt | cgaggattcc | 780 |
| tcaggttaatc | tccttaggacg | gaattccctt | gaggtcgctg | tttgcgtatg | cccgccgc | 840 |
| gatgcccgga | ccgaagagga | gaatctccgg | aagaaagggt | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaaac | aacaccagca | gttctccaca | gccaaagaag | 960 |
| aaacctttgg | acggagaata | tttcacccctt | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | tttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaaagg | gtcagtctac | ctccgcctat | 1140 |
| aaaaaaactg | tgttcaagac | cgaaggctt | gactcagact | ga | | 1182 |

<210> 38

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 38

| | | | | | |
|------------|------------|------------|-----------|------------|-----------|
| atggaagaac | cacagtcaga | tcctagcgtc | gaaccaccc | tgagtcagga | aacctttca |
|------------|------------|------------|-----------|------------|-----------|

60

433480_1

| | | | | | | |
|-------------|-------------|------------|------------|-------------|--------------|------|
| gacctgtgga | aattgcttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgg | tcactgaaga | tccaggccca | 180 |
| gatgaagctc | cacgaatgcc | agaggccgct | ccaccgggt | ccccagcacc | agcagctcct | 240 |
| acaccggcgg | ccccagctcc | ggccccatcc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cggtttccgt | ctgggcttct | tgcatctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgccaaact | cgcgaagagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcaatg | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgatc | gacggttaccc | acaccatgag | 540 |
| cgctgctcag | attctgtatgg | tctggcgc | ccacagcatc | ttatccgagt | ggaaggttaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgc | actttcgac | acagtgtgg | gttgcataat | 660 |
| gagccaccag | aagttggc | tgactgc | accatccact | acaactat | gttaacagt | 720 |
| tcatgcattgg | gcggcatgaa | ccggcggccg | atcctgacca | tcatcactct | cgaggattcc | 780 |
| tcaaggtaatc | tccttaggacg | gaattcc | gaggtgcgt | tttgcgtat | cccgccgc | 840 |
| gatgcgggaa | ccgaagagga | gaatctcc | aagaaagg | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgc | aacaccagca | gttctccaca | gccaagaag | 960 |
| aaaccttgg | acggagaata | tttcc | cagatccgt | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccac | tccaaaagg | gtcagtctac | ctccgc | 1140 |
| aaaaaactga | tgttcaagac | cgaagg | gactcagact | ga | | 1182 |

<210> 39

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 39

| | | | | | | |
|-------------|-------------|------------|------------|-------------|--------------|------|
| atggaagaac | cacagtca | tcctagcgtc | gaaccac | tgagtca | aac | 60 |
| gacctgtgga | aattgcttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgg | tcactgaaga | tccaggccca | 180 |
| gatgaagctc | cacgaatgcc | agaggccgct | ccaccgggt | ccccagcacc | agcagctcct | 240 |
| acaccggcgg | ccccagctcc | ggccccatcc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cggtttccgt | ctgggcttct | tgcatctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgccaaact | cgcgaagagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcaatg | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgatc | gacggtgtcc | acaccatgag | 540 |
| cgctgctcag | attctgtatgg | tctggcgc | ccacagcatc | ttatccgagt | ggaaggttaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgc | actttcgac | acagtgtgg | gttgcataat | 660 |
| gagccaccag | aagttggc | tgactgc | accatccact | acaactat | gttaacagt | 720 |
| tcatgcattgg | gcggcatgaa | ccggcggccg | atcctgacca | tcatcactct | cgaggattcc | 780 |
| tcaaggtaatc | tccttaggacg | gaattcc | gaggtgcgt | tttgcgtat | cccgccgc | 840 |
| gatgcgggaa | ccgaagagga | gaatctcc | aagaaagg | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgc | aacaccagca | gttctccaca | gccaagaag | 960 |
| aaaccttgg | acggagaata | tttcc | cagatccgt | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccac | tccaaaagg | gtcagtctac | ctccgc | 1140 |
| aaaaaactga | tgttcaagac | cgaagg | gactcagact | ga | | 1182 |

<210> 40

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 40

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| atggaagaac | cacagtca | tcctagcgtc | gaaccac | tgagtca | aac | 60 |
| gacctgtgga | aattgcttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgg | tcactgaaga | tccaggccca | 180 |
| gatgaagctc | cacgaatgcc | agaggccgct | ccaccgggt | ccccagcacc | agcagctcct | 240 |

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| | | | | | | |
|-------------|--------------|--------------|------------|------------|-------------|------|
| acaccggcgg | ccccagctcc | ggcccccattcc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cggtttccgt | ctgggcttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgcact | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgaatg | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgtac | gacgctgtcc | acaccatgag | 540 |
| cgctgcttag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcaac | acttttcgac | acagtgtgg | ggtgccat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactat | gttaacagt | 720 |
| tcatgcatgg | gcccgcattgaa | ccggcggccg | atccgtacca | tcatcactct | cgaggattcc | 780 |
| tcaggttaatc | tccttaggacg | gaattccctt | gaggtcgtg | tttgcat | cctccggccgc | 840 |
| gatcgccgga | ccgaagagga | gaatctcccg | aagaaagggt | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | gccaagaag | 960 |
| aaacctttgg | acggagaata | tttcacccctt | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaa | tccaaaagg | gtcagtctac | ctccgcctat | 1140 |
| aaaaaactga | tgttcaagac | cgaaggctt | gactcagact | ga | | 1182 |

<210> 41

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 41

| | | | | | | |
|-------------|--------------|--------------|------------|------------|-------------|------|
| atggaagaac | cacagtca | tcctagcg | gaaccaccc | tgagtcagga | aacctttca | 60 |
| gacctgtgg | aattgttcc | tgaaaaca | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgg | tcaactga | tccaggccca | 180 |
| gatgaagctc | cacgaatg | ccaggccgt | ccaccgtt | ccccagcacc | agcagctcct | 240 |
| acaccggcgg | ccccagctcc | ggcccccattcc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cgggttccgt | ctgggcttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgcact | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgaatg | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgtac | gacgctgtcc | acaccatgag | 540 |
| cgctgcttag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcaac | acttttcgac | acagtgtgg | ggtgccat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactat | gttaacagt | 720 |
| tcatgcatgg | gcccgcattgaa | ccggcggccg | atccgtacca | tcatcactct | cgaggattcc | 780 |
| tcaggttaatc | tccttaggacg | gaattccctt | gaggtcgtg | tttgcat | cctccggccgc | 840 |
| gatcgccgga | ccgaagagga | gaatctcccg | aagaaagggt | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | gccaagaag | 960 |
| aaacctttgg | acggagaata | tttcacccctt | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaa | tccaaaagg | gtcagtctac | ctccgcctat | 1140 |
| aaaaaactga | tgttcaagac | cgaaggctt | gactcagact | ga | | 1182 |

<210> 42

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 42

| | | | | | | |
|------------|------------|--------------|------------|------------|------------|-----|
| atggaagaac | cacagtca | tcctagcg | gaaccaccc | tgagtcagga | aacctttca | 60 |
| gacctgtgg | aattgttcc | tgaaaaca | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgg | tcaactga | tccaggccca | 180 |
| gatgaagctc | cacgaatg | ccaggccgt | ccaccgtt | ccccagcacc | agcagctcct | 240 |
| acaccggcgg | ccccagctcc | ggcccccattcc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cgggttccgt | ctgggcttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgcact | cgcgaagacc | 420 |

433480_1

| | | | | | | |
|-------------|-------------|-------------|-------------|------------|-------------|------|
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcaatg | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggctgtac | gacgctgtcc | acaccatgag | 540 |
| cgctgcttag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggttaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcaac | acttttcgac | acagtgtgt | gggccatat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactata | gtgtaacagt | 720 |
| tcatgcattgg | gcggcatgaa | ccggcgccg | atccctgacca | tcatcactct | cgaggattcc | 780 |
| tcaggttaatc | tccttaggacg | gaattccctt | gaggctgt | tttgcgtat | cccgccc | 840 |
| gatcgccgga | ccgaagagga | aatctccgg | aagaaagggt | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | gccaaagaag | 960 |
| aaacctttgg | acggagaata | tttcacccctt | cagatccgt | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaaagg | gtcagtctac | ctccgccat | 1140 |
| aaaaaactga | tgttcaagac | cgaaggtctt | gactcagact | ga | | 1182 |

<210> 43

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 43

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|------|
| atggagaaac | cacagtcaga | tcctagcgtc | gaaccaccc | tgagtcagga | aacctttca | 60 |
| gacctgtgg | aattgtttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgg | tcaactgaaga | tccaggccc | 180 |
| gatgaagctc | cacgaatgcc | agaggccgt | ccaccgggt | ccccagcac | agcagctcct | 240 |
| acaccggcgg | ccccagctcc | ggccccatcc | tggccctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cggtttccgt | ctgggcttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgcctact | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcaatg | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggctgtac | gacgctgtcc | acaccatgag | 540 |
| cgctgcttag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggttaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcaac | acttttcgaa | gatctgtgtt | gggccatat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactata | gtgtaacagt | 720 |
| tcatgcattgg | gcggcatgaa | ccggcgccg | atccctgacca | tcatcactct | cgaggattcc | 780 |
| tcaggttaatc | tccttaggacg | gaattccctt | gaggctgt | tttgcgtat | cccgccc | 840 |
| gatcgccgga | ccgaagagga | aatctccgg | aagaaagggt | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | gccaaagaag | 960 |
| aaacctttgg | acggagaata | tttcacccctt | cagatccgt | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaaagg | gtcagtctac | ctccgccat | 1140 |
| aaaaaactga | tgttcaagac | cgaaggtctt | gactcagact | ga | | 1182 |

<210> 44

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 44

| | | | | | | |
|------------|-------------|------------|------------|-------------|-------------|-----|
| atggagaaac | cacagtcaga | tcctagcgtc | gaaccaccc | tgagtcagga | aacctttca | 60 |
| gacctgtgg | aattgtttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgg | tcaactgaaga | tccaggccc | 180 |
| gatgaagctc | cacgaatgcc | agaggccgt | ccaccgggt | ccccagcac | agcagctcct | 240 |
| acaccggcgg | ccccagctcc | ggccccatcc | tggccctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cggtttccgt | ctgggcttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgcctact | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcaatg | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggctgtac | gacgctgtcc | acaccatgag | 540 |
| cgctgcttag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggttaac | 600 |

433480_1

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|------|
| ctacgcgtgg | agtatctaga | tgaccgcaac | actttcgac | acagtgtgg | ggtgccatat | 660 |
| gagccaccag | aagtggc | tgactgcacc | accatccact | acaactata | gtgtacagt | 720 |
| tcatgcatt | gcggcatgaa | ccggcggccg | atcctgacca | tcatcact | cgaggattcc | 780 |
| tcaaggtaatc | tccttcgaag | gaattcctt | gaggtgcgt | tttgcgt | cccgccgc | 840 |
| gatcgccgga | ccgaagagga | aatctccgg | aagaagg | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgc | aacaccagca | gttctccaca | gccaaagaag | 960 |
| aaaccttgg | acggagaata | tttcaccc | cagatccgt | gccgtgagcg | tttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgt | ctcatagcag | ccacctgaag | tccaaaagg | gtcagtctac | ctccgc | 1140 |
| aaaaaaactga | tgttcaagac | cgaagg | gactcagact | ga | | 1182 |

<210> 45

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 45

| | | | | | | | | | | |
|-------------|--------|-----------|------------|----------|-------|---------|-------|-------|--------|------|
| atggaaagaac | cacagt | caga | tcctagcgtc | gaaccac | ctc | tgagt | cagga | aac | ctttca | 60 |
| gac | ctgtgg | ga | aattgttcc | tgaaaaca | ac | gttctgt | ccc | catt | gcctag | 120 |
| gatgattt | ga | tgctgtccc | agacgat | att | gaaca | atgg | tca | actga | aga | 180 |
| gatgaag | ctc | cac | gaatg | cc | agagg | ccgt | cc | ccc | agc | 240 |
| acacc | ggc | cc | cc | ccat | cc | cc | cc | ctt | cc | 300 |
| aaaac | ctt | acc | agg | cgt | ttt | cc | cc | cc | cc | 360 |
| tctgtt | actt | gtac | gtact | c | cc | cc | cc | cc | cc | 420 |
| tgccc | actt | gt | ctgtgg | cc | cc | cc | cc | cc | cc | 480 |
| ccat | ctt | act | gtgg | cc | cc | cc | cc | cc | cc | 540 |
| cgct | gtct | ca | atgt | cc | cc | cc | cc | cc | cc | 600 |
| ctac | gcgt | gg | atgt | cc | cc | cc | cc | cc | cc | 660 |
| gagcc | acc | cc | gtgg | cc | cc | cc | cc | cc | cc | 720 |
| tcat | gcat | gg | actt | cc | cc | cc | cc | cc | cc | 780 |
| tca | ggta | atc | tcct | cc | cc | cc | cc | cc | cc | 840 |
| gatcg | ccgg | aa | atct | cc | cc | cc | cc | cc | cc | 900 |
| ccac | ggag | gg | atct | cc | cc | cc | cc | cc | cc | 960 |
| aaac | ctt | gg | acgg | cc | cc | cc | cc | cc | cc | 1020 |
| ttcc | cgag | gg | tgaat | cc | cc | cc | cc | cc | cc | 1080 |
| ggc | agcc | gg | atgt | cc | cc | cc | cc | cc | cc | 1140 |
| aaaaaa | actt | gtt | caagac | cc | cc | cc | cc | cc | cc | 1182 |

<210> 46

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 46

| | | | | | | | | | | |
|-------------|--------|-----------|------------|----------|-------|---------|-------|-------|--------|-----|
| atggaaagaac | cacagt | caga | tcctagcgtc | gaaccac | ctc | tgagt | cagga | aac | ctttca | 60 |
| gac | ctgtgg | ga | aattgttcc | tgaaaaca | ac | gttctgt | ccc | catt | gcctag | 120 |
| gatgattt | ga | tgctgtccc | agacgat | att | gaaca | atgg | tca | actga | aga | 180 |
| gatgaag | ctc | cac | gaatg | cc | agagg | ccgt | cc | ccc | agc | 240 |
| acacc | ggc | cc | cc | ccat | cc | cc | cc | cc | cc | 300 |
| aaaac | ctt | acc | agg | cgt | ttt | cc | cc | cc | cc | 360 |
| tctgtt | actt | gtac | gtact | c | cc | cc | cc | cc | cc | 420 |
| tgccc | actt | gt | ctgtgg | cc | cc | cc | cc | cc | cc | 480 |
| ccat | ctt | act | gtgg | cc | cc | cc | cc | cc | cc | 540 |
| cgct | gtct | ca | atgt | cc | cc | cc | cc | cc | cc | 600 |
| ctac | gcgt | gg | atgt | cc | cc | cc | cc | cc | cc | 660 |
| gagcc | acc | cc | gtgg | cc | cc | cc | cc | cc | cc | 720 |
| tcat | gcat | gg | actt | cc | cc | cc | cc | cc | cc | 780 |

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| | | | | | | |
|------------|------------|-------------|------------|------------|------------|------|
| tcaggtaatc | tcctaggacg | gaattccttt | gaggtgcgtg | tttgcgtat | ccggggccgc | 840 |
| gatcgccgga | ccgaagagga | aatctccgg | aagaaaggtg | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | gccaaagaag | 960 |
| aaaccttgg | acggagaata | tttcacccctt | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctaag | tccaaaagg | gtcagtctac | ctccgcctat | 1140 |
| aaaaaactga | tgttcaagac | cgaaggctct | gactcagact | ga | | 1182 |

<210> 47

<211> 1181

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 47

| | | | | | | |
|---------------|-------------|------------|-------------|------------|------------|------|
| tggaagaacc | acagtcagat | cctagcgctg | aaccacctct | gagtcaggaa | acctttcag | 60 |
| acctgtggaa | attgtttcct | gaaaacaacg | ttctgtcccc | attgcctagt | caagcaatgg | 120 |
| atgatttgc | gtgtcccca | gacgatattt | aacaatggtt | cactgaagat | ccaggcccag | 180 |
| atgaagctcc | acgaatgcca | gaggccgctc | caccgggtgc | cccagcacca | gcagctccta | 240 |
| caccggccggc | cccagctccg | gccccatcct | ggcctctgtc | atcttctgtc | ccttcccaga | 300 |
| aaacaccttacca | gggcagactac | gtttccgtc | tgggcttctt | gcattctgga | actgccaagt | 360 |
| ctgttacttg | tacgtactct | ccagccctta | acaagatgtt | ttaccaactc | gcgaagacct | 420 |
| gcccagtcca | actgtgggtc | gactccaccc | ctccacctgg | tacacgtgtc | cgccaaatgg | 480 |
| ccatctacaa | gcagagccag | cacatgacgg | aggtcgtacg | acgctgtcca | caccatgagc | 540 |
| gctgctcaga | ttctgtatgg | ctggccac | cacagcatct | tatccgagtg | gaaggtaacc | 600 |
| tafcgcgttgg | gtatcttagat | gaccgcaaca | cttttcgaca | cagtgtggtg | gtgcctatag | 660 |
| agccaccaga | agttggctct | gactgcacca | ccatccacta | caactatata | tgtaacagtt | 720 |
| catgcattgg | cgccatgaa | ccggccggca | tcctgaccat | catcactctc | gaggattcct | 780 |
| caggtaatc | ccttaggacgg | aattccctt | aggtcgtgt | ttgtgcatac | ccggggccgc | 840 |
| atcgccggac | cgaagaggag | aattcccgaa | agaaagggtga | gcctcaccac | gagtcaccc | 900 |
| caggaagcac | taagcgagca | ctgccaaaca | acaccagcag | ttctccacag | ccaaagaaga | 960 |
| aaaccttgg | cggagaatat | ttcacccttc | agatccgtgg | ccgtgagcgg | ttcgagatgt | 1020 |
| tccgagagct | aatgaggcc | ttagaactt | aggatgccc | ggctggtaag | gagccaggag | 1080 |
| ccagccgtgc | tcatagcagc | cacctaagt | ccaaaagg | tcagtctacc | tccgcctata | 1140 |
| aaaaaactgtat | gttcaagacc | gaaggctct | actcagact | ga | | 1181 |

<210> 48

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 48

| | | | | | | |
|----------------|-------------|-------------|------------|-------------|------------|-----|
| atggaaagaac | cacagtcaga | tcctagcgtc | gaaccacctc | tgagtcagga | aacctttca | 60 |
| gacctgtggaa | aattgtttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttgc | tgctgtccca | agacgatatt | gaacaatgg | tcaactgaga | tccaggccca | 180 |
| gatgaagctc | cacgaatgccc | agaggccgt | ccaccgggt | ccccagcac | agcagctcct | 240 |
| acaccggccgg | ccccagctcc | gccccatcc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaacaccttacca | agggcagacta | cggtttccgt | ctgggcttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgccaa | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgaatg | 480 |
| gccatctaca | agcagagcc | gcacatgacg | gaggtcgtac | gacgctgtcc | acaccatgag | 540 |
| cgctgctcag | attctgtatgg | tctggccca | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |
| ctacgcgttgg | agtatctaga | tgaccgcac | acttttcgac | acagtgtgg | ggtgcctat | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactatata | tgtaactca | 720 |
| agcttcatgg | cgccatgaa | ccggccggccg | atcctgacca | tcatcactct | cgaggattcc | 780 |
| tcaggtaatc | tcctaggacg | gaattccctt | gaggtgcgtg | tttgcatac | ccggggccgc | 840 |
| gatcgccgga | ccgaagagga | aatctccgg | agaaagggtg | gcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | gccaaagaag | 960 |

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| | | | | | | |
|-------------|------------|-------------|------------|------------|------------|------|
| aaacctttgg | acggagaata | tttcacccctt | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaaagg | gtcagtctac | ctcccgccat | 1140 |
| aaaaaaactga | tgttcaagac | cgaaggctct | gactcagact | ga | | 1182 |

<210> 49

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 49

| | | | | | | |
|-------------|-------------|-------------|------------|------------|-------------|------|
| atggaagaac | cacagtcaga | tcctagcgtc | gaaccaccc | tgagtcagga | aacctttca | 60 |
| gacctgtgga | aattgttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgg | tcactgaaga | tccaggccc | 180 |
| gatgaagctc | cacgaatgcc | agaggccgt | ccaccgggt | ccccagcacc | agcagctcct | 240 |
| acaccggcgg | ccccagctcc | ggccccatcc | tggcctctgt | catcttctgt | ccctccca | 300 |
| aaaacctacc | agggcagcta | cggtttccgt | ctgggcttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgcact | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgaatg | 480 |
| gccccatcc | agcagagcca | gcacatgacg | gaggcgtac | gacgctgtcc | acaccatgag | 540 |
| cgctgctcag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcac | actttcgac | acagtgtgt | ggtgccat | 660 |
| gagccaccag | aagtggcgtc | tgactgcacc | accatccact | acaactat | gtgttaacagt | 720 |
| tcatgcattgg | gcggcatgaa | ccggcgccg | atccgtacca | tcatcactct | cgaggattcc | 780 |
| tcaggttaatc | tccttaggacg | gaattccctt | gaggcgtgt | tttacgcgtg | cccgccgc | 840 |
| gatcgccgg | ccgaagagga | aatctcccg | aagaaagg | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | gccaagaag | 960 |
| aaacctttgg | acggagaata | tttcacccctt | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaaagg | gtcagtctac | ctcccgccat | 1140 |
| aaaaaaactga | tgttcaagac | cgaaggctct | gactcagact | ga | | 1182 |

<210> 50

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 50

| | | | | | | |
|-------------|-------------|-------------|------------|------------|-------------|------|
| atggaagaac | cacagtcaga | tcctagcgtc | gaaccaccc | tgagtcagga | aacctttca | 60 |
| gacctgtgga | aattgttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgg | tcactgaaga | tccaggccc | 180 |
| gatgaagctc | cacgaatgcc | agaggccgt | ccaccgggt | ccccagcacc | agcagctcct | 240 |
| acaccggcgg | ccccagctcc | ggccccatcc | tggcctctgt | catcttctgt | ccctccca | 300 |
| aaaacctacc | agggcagcta | cggtttccgt | ctgggcttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aaccgcatgt | tttgcact | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgaatg | 480 |
| gccccatcc | agcagagcca | gcacatgacg | gaggcgtac | gacgctgtcc | acaccatgag | 540 |
| cgctgctcag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcac | actttcgac | acagtgtgt | ggtgccat | 660 |
| gagccaccag | aagtggcgtc | tgactgcacc | accatccact | acaactat | gtgttaacagt | 720 |
| tcatgcattgg | gcggcatgaa | ccggcgccg | atccgtacca | tcatcactct | cgaggattcc | 780 |
| tcaggttaatc | tccttaggacg | gaattccctt | gaggcgtgt | tttgcgtat | cccgccgc | 840 |
| gatcgccgg | ccgaagagga | aatctcccg | aagaaagg | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | gccaagaag | 960 |
| aaacctttgg | acggagaata | tttcacccctt | cagatccgtg | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaaagg | gtcagtctac | ctcccgccat | 1140 |
| aaaaaaactga | tgttcaagac | cgaaggctct | gactcagact | ga | | 1182 |

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aaaaaaactga tttcaagac cgaaggcct gactcagact ga

1182

<210> 51

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 51

| | | | | | | | | | |
|----------------------------------|------------|------------|------------|-----------|------------|-----------|-------|------------|------|
| atggaagaac cacagtcaga tcctagcgtc | gaaccaccc | tgagtcagga | aac | ttttca | 60 | | | | |
| gac | ctgttga | aattgttcc | tgaaaacaac | gttctgtcc | cattgcctag | tca | gaatg | 120 | |
| at | gat | gat | tttga | tgctgtccc | agacgatatt | gaacaatgg | tc | actgaaga | 180 |
| gat | gaag | ctc | cac | gaatgtcc | agaggccgt | ccaccgg | cc | caggccc | 240 |
| ac | acc | ggc | cc | cc | ccatcc | ttggcctct | cat | ttctgt | 300 |
| aa | aa | cc | cc | cc | ccatcc | ctggcctct | tg | cattctgg | 360 |
| tct | gtt | tac | gt | tcc | agcc | ttttcc | ttt | ggccaact | 420 |
| tg | ccc | act | gt | cc | cc | ccatcc | cc | cgcaagacc | 480 |
| gc | ccat | tac | act | cc | cc | ccatcc | cc | cgcaatg | 540 |
| cc | at | ca | gt | cc | cc | ccatcc | cc | acaccatgag | 600 |
| cg | ct | tc | at | cc | cc | ccatcc | tt | atccgagt | 660 |
| ct | ac | cg | at | cc | cc | ccatcc | ac | gtgttgg | 720 |
| ac | gc | gt | at | cc | cc | ccatcc | ac | gttgcata | 780 |
| tc | ag | ta | ct | cc | cc | ccatcc | tc | atcactct | 840 |
| tc | ag | ta | ct | cc | cc | ccatcc | cc | cgaggattcc | 900 |
| at | cg | cc | cc | cc | cc | ccatcc | cc | cgagctgcca | 960 |
| aa | ac | cc | cc | cc | cc | ccatcc | tt | atccgagt | 1020 |
| tt | cc | gg | gg | cc | cc | ccatcc | ag | gttgcata | 1080 |
| cc | cc | gg | gg | cc | cc | ccatcc | gg | ggagccagga | 1140 |
| aa | aa | aa | aa | aa | aa | aa | gg | gtcagtctac | 1182 |
| aaaaaaactga | tgttcaagac | cgaaggcct | gactcagact | ga | | | | | |

<210> 52

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 52

| | | | | | | | | | |
|----------------------------------|------------|------------|------------|-----------|------------|-----------|-------|------------|------|
| atggaagaac cacagtcaga tcctagcgtc | gaaccaccc | tgagtcagga | aac | ttttca | 60 | | | | |
| gac | ctgttga | aattgttcc | tgaaaacaac | gttctgtcc | cattgcctag | tca | gaatg | 120 | |
| at | gat | gat | tttga | tgctgtccc | agacgatatt | gaacaatgg | tc | actgaaga | 180 |
| gat | gaag | ctc | cac | gaatgtcc | agaggccgt | ccaccgg | cc | caggccc | 240 |
| ac | acc | ggc | cc | cc | ccatcc | ttggcctct | cat | ttctgt | 300 |
| aa | aa | cc | cc | cc | ccatcc | ctggcctct | tg | cattctgg | 360 |
| tct | gtt | tac | gt | tcc | agcc | ttttcc | ttt | ggccaact | 420 |
| tg | ccc | act | gt | cc | cc | ccatcc | cc | cgcaagacc | 480 |
| gc | ccat | tac | act | cc | cc | ccatcc | cc | cgcaatg | 540 |
| cc | at | ca | gt | cc | cc | ccatcc | cc | acaccatgag | 600 |
| cg | ct | tc | at | cc | cc | ccatcc | tt | atccgagt | 660 |
| ct | ac | cg | at | cc | cc | ccatcc | ac | gtgttgg | 720 |
| ac | gc | gt | at | cc | cc | ccatcc | tc | atcactct | 780 |
| tc | ag | ta | ct | cc | cc | ccatcc | cc | cgaggattcc | 840 |
| tc | ag | ta | ct | cc | cc | ccatcc | cc | cgagctgcca | 900 |
| at | cg | cc | cc | cc | cc | ccatcc | tt | atccgagt | 960 |
| aa | ac | cc | cc | cc | cc | ccatcc | ag | gttgcata | 1020 |
| tt | cc | gg | gg | cc | cc | ccatcc | gg | ggagccagga | 1080 |
| cc | cc | gg | gg | cc | cc | ccatcc | gg | gtcagtctac | 1140 |
| aa | aa | aa | aa | aa | aa | aa | gg | ctccgc | 1182 |
| aaaaaaactga | tgttcaagac | cgaaggcct | gactcagact | ga | | | | | |

<210> 53

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 53

| | | | | | | | |
|-------------|-------------|-------------|------------|-------------|------------|-------|------|
| atggaagaac | cacagtcaga | tcctagcgta | gaaccaccc | tgagtcagga | aaccc | tttca | 60 |
| gacctgtgaa | aattgtttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgg | tcactgaaga | tccaggccca | | 180 |
| gatgaagctc | cacgaatgcc | agaggccgct | ccaccgggt | ccccagcacc | agcagctcct | | 240 |
| acaccggcgg | ccccagctcc | ggcccccattc | tggccctgt | catcttctgt | cccttccag | | 300 |
| aaaacctacc | agggcagcta | cggtttccgt | ctgggcttct | tgcatctgg | aactgccaag | | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgccaaact | cgcgaagacc | | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcaatg | | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgtac | gacgctgtcc | acaccatgag | | 540 |
| cgctgctcag | attctgatgg | tctggcgc | ccacagcatc | ttatccgagt | ggaaggtaac | | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcaac | acttttcgac | acagtgtgg | ggtgccatat | | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactat | gtgtAACAGT | | 720 |
| tcatgcattgg | gcggcatgaa | ccggcggccg | atcctgacca | tcatcactct | cgaggattcc | | 780 |
| tcaggttaatc | tccttaggacg | gaattcctt | gaggtcgtg | tttgtgc | cccgccgc | | 840 |
| gagcgcggg | ccgaagagga | gaatctccgg | aagaagg | agcctcacca | cgagctgcca | | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | gccaaagaag | | 960 |
| aaaccttgg | acggagaata | tttcaccc | cagatccgtg | gccgtgagcg | gttcgagatg | | 1020 |
| ttcccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaa | tccaaaagg | gtcagtctac | ctccgc | | 1140 |
| aaaaaaactga | tgttcaagac | cgaaggctct | gactcagact | ga | | | 1182 |

<210> 54

<211> 393

<212> PRT

<213> Homo sapiens

<400> 54

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Glu | Pro | Gln | Ser | Asp | Pro | Ser | Val | Glu | Pro | Pro | Leu | Ser | Gln |
| 1 | | | | | | | | | 10 | | | | | 15 | |
| Glu | Thr | Phe | Ser | Asp | Leu | Trp | Lys | Leu | Leu | Pro | Glu | Asn | Asn | Val | Leu |
| | | | | | | | | | 20 | | | | | 25 | 30 |
| Ser | Pro | Leu | Pro | Ser | Gln | Ala | Met | Asp | Asp | Leu | Met | Leu | Ser | Pro | Asp |
| | | | | | | | | | 35 | | | | | 40 | 45 |
| Asp | Ile | Glu | Gln | Trp | Phe | Thr | Glu | Asp | Pro | Gly | Pro | Asp | Glu | Ala | Pro |
| | | | | | | | | | 50 | | | | | 55 | 60 |
| Arg | Met | Pro | Glu | Ala | Ala | Pro | Pro | Val | Ala | Pro | Ala | Pro | Ala | Ala | Pro |
| | | | | | | | | | 65 | | | | | 70 | 75 |
| Thr | Pro | Ala | Ala | Pro | Ala | Pro | Ala | Pro | Ser | Trp | Pro | Leu | Ser | Ser | Ser |
| | | | | | | | | | 85 | | | | | 90 | 95 |
| Val | Pro | Ser | Gln | Lys | Thr | Tyr | Gln | Gly | Ser | Tyr | Gly | Phe | Arg | Leu | Gly |
| | | | | | | | | | 100 | | | | | 105 | 110 |
| Phe | Leu | His | Ser | Gly | Thr | Ala | Lys | Ser | Val | Thr | Cys | Thr | Tyr | Ser | Pro |
| | | | | | | | | | 115 | | | | | 120 | 125 |
| Ala | Leu | Asn | Lys | Met | Phe | Cys | Gln | Leu | Ala | Lys | Thr | Cys | Pro | Val | Gln |
| | | | | | | | | | 130 | | | | | 135 | 140 |
| Leu | Trp | Val | Asp | Ser | Thr | Pro | Pro | Gly | Thr | Arg | Val | Arg | Ala | Met | |
| | | | | | | | | | 145 | | | | | 150 | 155 |
| Ala | Ile | Tyr | Lys | Gln | Ser | Gln | His | Met | Thr | Glu | Val | Val | Arg | Arg | Cys |
| | | | | | | | | | 165 | | | | | 170 | 175 |
| Pro | His | His | Glu | Arg | Cys | Ser | Asp | Ser | Asp | Gly | Leu | Ala | Pro | Pro | Gln |
| | | | | | | | | | 180 | | | | | 185 | 190 |
| His | Leu | Ile | Arg | Val | Glu | Gly | Asn | Leu | Arg | Val | Glu | Tyr | Leu | Asp | Asp |
| | | | | | | | | | 195 | | | | | 200 | 205 |
| Arg | Asn | Thr | Phe | Arg | His | Ser | Val | Val | Val | Pro | Tyr | Glu | Pro | Pro | Glu |
| | | | | | | | | | 210 | | | | | 215 | 220 |

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Val Gly Ser Asp Cys Thr Thr Ile His Tyr Asn Tyr Met Cys Asn Ser
 225 230 235 240
 Ser Cys Met Gly Gly Met Asn Arg Arg Pro Ile Leu Thr Ile Ile Thr
 245 250 255
 Leu Glu Asp Ser Ser Gly Asn Leu Leu Gly Arg Asn Ser Phe Glu Val
 260 265 270
 Arg Val Cys Ala Cys Pro Gly Arg Asp Arg Arg Thr Glu Glu Glu Asn
 275 280 285
 Leu Arg Lys Lys Gly Glu Pro His His Glu Leu Pro Pro Gly Ser Thr
 290 295 300
 Lys Arg Ala Leu Pro Asn Asn Thr Ser Ser Pro Gln Pro Lys Lys
 305 310 315 320
 Lys Pro Leu Asp Gly Glu Tyr Phe Thr Leu Gln Ile Arg Gly Arg Glu
 325 330 335
 Arg Phe Glu Met Phe Arg Glu Leu Asn Glu Ala Leu Glu Leu Lys Asp
 340 345 350
 Ala Gln Ala Gly Lys Glu Pro Gly Gly Ser Arg Ala His Ser Ser His
 355 360 365
 Leu Lys Ser Lys Lys Gly Gln Ser Thr Ser Arg His Lys Lys Leu Met
 370 375 380
 Phe Lys Thr Glu Gly Pro Asp Ser Asp
 385 390

<210> 55

<211> 393

<212> PRT

<213> Homo sapiens

<400> 55

Met Glu Glu Pro Gln Ser Asp Pro Ser Val Glu Pro Pro Leu Ser Gln
 1 5 10 15
 Glu Thr Phe Ser Asp Leu Trp Lys Leu Leu Pro Glu Asn Asn Val Leu
 20 25 30
 Ser Pro Leu Pro Ser Gln Ala Met Asp Asp Leu Met Leu Ser Pro Asp
 35 40 45
 Asp Ile Glu Gln Trp Phe Thr Glu Asp Pro Gly Pro Asp Glu Ala Pro
 50 55 60
 Arg Met Pro Glu Ala Ala Pro Arg Val Ala Pro Ala Pro Ala Ala Pro
 65 70 75 80
 Thr Pro Ala Ala Pro Ala Pro Ala Pro Ser Trp Pro Leu Ser Ser Ser
 85 90 95
 Val Pro Ser Gln Lys Thr Tyr Gln Gly Ser Tyr Gly Phe Arg Leu Gly
 100 105 110
 Phe Leu His Ser Gly Thr Ala Lys Ser Val Thr Cys Thr Tyr Ser Pro
 115 120 125
 Ala Leu Asn Lys Met Phe Cys Gln Leu Ala Lys Thr Cys Pro Val Gln
 130 135 140
 Leu Trp Val Asp Ser Thr Pro Pro Pro Gly Thr Arg Val Arg Ala Met
 145 150 155 160
 Ala Ile Tyr Lys Gln Ser Gln His Met Thr Glu Val Val Arg Arg Cys
 165 170 175
 Pro His His Glu Arg Cys Ser Asp Ser Asp Gly Leu Ala Pro Pro Gln
 180 185 190
 His Leu Ile Arg Val Glu Gly Asn Leu Arg Val Glu Tyr Leu Asp Asp
 195 200 205
 Arg Asn Thr Phe Arg His Ser Val Val Val Pro Tyr Glu Pro Pro Glu
 210 215 220
 Val Gly Ser Asp Cys Thr Thr Ile His Tyr Asn Tyr Met Cys Asn Ser
 225 230 235 240
 Ser Cys Met Gly Gly Met Asn Arg Arg Pro Ile Leu Thr Ile Ile Thr
 245 250 255
 Leu Glu Asp Ser Ser Gly Asn Leu Leu Gly Arg Asn Ser Phe Glu Val
 260 265 270

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Arg Val Cys Ala Cys Pro Gly Arg Asp Arg Arg Thr Glu Glu Glu Asn
275 280 285
Leu Arg Lys Lys Gly Glu Pro His His Glu Leu Pro Pro Gly Ser Thr
290 295 300
Lys Arg Ala Leu Pro Asn Asn Thr Ser Ser Ser Pro Gln Pro Lys Lys
305 310 315 320
Lys Pro Leu Asp Gly Glu Tyr Phe Thr Leu Gln Ile Arg Gly Arg Glu
325 330 335
Arg Phe Glu Met Phe Arg Glu Leu Asn Glu Ala Leu Glu Leu Lys Asp
340 345 350
Ala Gln Ala Gly Lys Glu Pro Gly Gly Ser Arg Ala His Ser Ser His
355 360 365
Leu Lys Ser Lys Lys Gly Gln Ser Thr Ser Arg His Lys Lys Leu Met
370 375 380
Phe Lys Thr Glu Gly Pro Asp Ser Asp
385 390

<210> 56

<211> 393

<212> PRT

<213> Homo sapiens

<400> 56

Met Glu Glu Pro Gln Ser Asp Pro Ser Val Glu Pro Pro Leu Ser Gln
1 5 10 15
Glu Thr Phe Ser Asp Leu Trp Lys Leu Leu Pro Glu Asn Asn Val Leu
20 25 30
Ser Pro Leu Pro Ser Gln Ala Met Asp Asp Leu Met Leu Ser Ser Asp
35 40 45
Asp Ile Glu Gln Trp Phe Thr Glu Asp Pro Gly Pro Asp Glu Ala Pro
50 55 60
Arg Met Pro Glu Ala Ala Pro Arg Val Ala Pro Ala Pro Ala Ala Pro
65 70 75 80
Thr Pro Ala Ala Pro Ala Pro Ala Pro Ser Trp Pro Leu Ser Ser Ser
85 90 95
Val Pro Ser Gln Lys Thr Tyr Gln Gly Ser Tyr Gly Phe Arg Leu Gly
100 105 110
Phe Leu His Ser Gly Thr Ala Lys Ser Val Thr Cys Thr Tyr Ser Pro
115 120 125
Ala Leu Asn Lys Met Phe Cys Gln Leu Ala Lys Thr Cys Pro Val Gln
130 135 140
Leu Trp Val Asp Ser Thr Pro Pro Pro Gly Thr Arg Val Arg Ala Met
145 150 155 160
Ala Ile Tyr Lys Gln Ser Gln His Met Thr Glu Val Val Arg Arg Cys
165 170 175
Pro His His Glu Arg Cys Ser Asp Ser Asp Gly Leu Ala Pro Pro Gln
180 185 190
His Leu Ile Arg Val Glu Gly Asn Leu Arg Val Glu Tyr Leu Asp Asp
195 200 205
Arg Asn Thr Phe Arg His Ser Val Val Val Pro Tyr Glu Pro Pro Glu
210 215 220
Val Gly Ser Asp Cys Thr Thr Ile His Tyr Asn Tyr Met Cys Asn Ser
225 230 235 240
Ser Cys Met Gly Gly Met Asn Arg Arg Pro Ile Leu Thr Ile Ile Thr
245 250 255
Leu Glu Asp Ser Ser Gly Asn Leu Leu Gly Arg Asn Ser Phe Glu Val
260 265 270
Arg Val Cys Ala Cys Pro Gly Arg Asp Arg Arg Thr Glu Glu Glu Asn
275 280 285
Leu Arg Lys Lys Gly Glu Pro His His Glu Leu Pro Pro Gly Ser Thr
290 295 300
Lys Arg Ala Leu Pro Asn Asn Thr Ser Ser Ser Pro Gln Pro Lys Lys

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305 310 315 320
Lys Pro Leu Asp Gly Glu Tyr Phe Thr Leu Gln Ile Arg Gly Arg Glu
325 330 335
Arg Phe Glu Met Phe Arg Glu Leu Asn Glu Ala Leu Glu Leu Lys Asp
340 345 350
Ala Gln Ala Gly Lys Glu Pro Gly Gly Ser Arg Ala His Ser Ser His
355 360 365
Leu Lys Ser Lys Lys Gly Gln Ser Thr Ser Arg His Lys Lys Leu Met
370 375 380
Phe Lys Thr Glu Gly Pro Asp Ser Asp
385 390

<210> 57

<211> 393

<212> PRT

<213> Homo sapiens

<400> 57

Met Glu Glu Pro Gln Ser Asp Pro Ser Val Glu Pro Pro Leu Ser Gln
1 5 10 15
Glu Thr Phe Ser Asp Leu Trp Lys Leu Leu Pro Glu Asn Asn Val Leu
20 25 30
Ser Pro Leu Pro Ser Gln Ala Met Asp Asp Leu Met Leu Ser Ser Asp
35 40 45
Asp Ile Glu Gln Trp Phe Thr Glu Asp Pro Gly Pro Asp Glu Ala Pro
50 55 60
Arg Met Pro Glu Ala Ala Pro Pro Val Ala Pro Ala Pro Ala Ala Pro
65 70 75 80
Thr Pro Ala Ala Pro Ala Pro Ala Pro Ser Trp Pro Leu Ser Ser Ser
85 90 95
Val Pro Ser Gln Lys Thr Tyr Gln Gly Ser Tyr Gly Phe Arg Leu Gly
100 105 110
Phe Leu His Ser Gly Thr Ala Lys Ser Val Thr Cys Thr Tyr Ser Pro
115 120 125
Ala Leu Asn Lys Met Phe Cys Gln Leu Ala Lys Thr Cys Pro Val Gln
130 135 140
Leu Trp Val Asp Ser Thr Pro Pro Pro Gly Thr Arg Val Arg Ala Met
145 150 155 160
Ala Ile Tyr Lys Gln Ser Gln His Met Thr Glu Val Val Arg Arg Cys
165 170 175
Pro His His Glu Arg Cys Ser Asp Ser Asp Gly Leu Ala Pro Pro Gln
180 185 190
His Leu Ile Arg Val Glu Gly Asn Leu Arg Val Glu Tyr Leu Asp Asp
195 200 205
Arg Asn Thr Phe Arg His Ser Val Val Val Pro Tyr Glu Pro Pro Glu
210 215 220
Val Gly Ser Asp Cys Thr Thr Ile His Tyr Asn Tyr Met Cys Asn Ser
225 230 235 240
Ser Cys Met Gly Gln Met Asn Arg Arg Pro Ile Leu Thr Ile Ile Thr
245 250 255
Leu Glu Asp Ser Ser Gly Asn Leu Leu Gly Arg Asn Ser Phe Glu Val
260 265 270
Arg Val Cys Ala Cys Pro Gly Arg Asp Arg Arg Thr Glu Glu Glu Asn
275 280 285
Leu Arg Lys Lys Gly Glu Pro His His Glu Leu Pro Pro Gly Ser Thr
290 295 300
Lys Arg Ala Leu Pro Asn Asn Thr Ser Ser Ser Pro Gln Pro Lys Lys
305 310 315 320
Lys Pro Leu Asp Gly Glu Tyr Phe Thr Leu Gln Ile Arg Gly Arg Glu
325 330 335
Arg Phe Glu Met Phe Arg Glu Leu Asn Glu Ala Leu Glu Leu Lys Asp
340 345 350
Ala Gln Ala Gly Lys Glu Pro Gly Gly Ser Arg Ala His Ser Ser His

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| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 355 | 360 | 365 | | | | | | | | | | | | | |
| Leu | Lys | Ser | Lys | Lys | Gly | Gln | Ser | Thr | Ser | Arg | His | Lys | Lys | Leu | Met |
| 370 | | | | | 375 | | | | | 380 | | | | | |
| Phe | Lys | Thr | Glu | Gly | Pro | Asp | Ser | Asp | | | | | | | |
| 385 | | | | | 390 | | | | | | | | | | |

<210> 58
<211> 2629
<212> DNA
<213> Homo sapiens

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|------|
| <400> 58 | 60 | | | | | |
| acttgtcatg | gcgactgtcc | agctttgtgc | caggaggcctc | gcaggggttg | atgggattgg | 120 |
| ggttttcccc | tcccatgtgc | tcaagactgg | cgctaaaagt | tttgagcttc | tcaaaaagtct | 180 |
| agagccaccc | tccaggggagc | aggtagctgc | tgggctccgg | ggacactttg | cgttcgggct | 240 |
| gggagcgtgc | tttccacgac | ggtgacacgc | ttccctggat | tggcagccag | actgccttc | 300 |
| gggtcactgc | catggaggag | ccgcagtcag | atccctagcgt | cgagccccc | ctgagtcagg | 360 |
| aaacatttc | agacctatgg | aaactacttc | ctgaaaacaa | cgttctgtcc | ccctgcccgt | 420 |
| cccaagcaat | ggatgatttg | atgctgtccc | cggaatgtat | tgaacaatgg | ttcactgaag | 480 |
| acccaggtcc | agatgaagct | cccagaatgc | cagaggctgc | tccccgcgtg | gccccctgcac | 540 |
| cagcagctcc | tacaccggcg | gccccctgcac | cagccccctc | ctggcccttg | tcatcttctg | 600 |
| tcccttcca | gaaaacctac | cagggcagct | acgggttccg | tctgggcttc | ttgcattctg | 660 |
| gjacagccaa | gtctgtact | tgacacgtact | cccctgcctc | caacaagatg | ttttgccaac | 720 |
| tggccaagac | ctgcccgtg | cagctgtgg | ttgattccac | accccccggcc | ggcaccccgcg | 780 |
| cccgcccat | ggccatctac | aagcagtac | agcacatgac | ggaggttgtg | aggcgctgcc | 840 |
| cccaccatga | gchgctctca | gatagcgtat | gtctggccccc | tcctcagcat | tttatccgag | 900 |
| tggaaagaaa | tttgcgtgt | gagtttttg | atgacagaaa | cacttttgcg | catagtgtgg | 960 |
| tggtccctta | tgagccgcct | gagggtggct | ctgactgtac | caccatccac | tacaactaca | 1020 |
| tgttaacacg | ttccctgcatg | ggcggcgtatg | accggaggcc | catcctcacc | atcatcacac | 1080 |
| tggaaagactc | cagtgttaat | ctactggggat | ggaacagctt | tgaggtgcgt | ttttgtgcct | 1140 |
| gtcctggggag | agaccggcgc | acagagggaa | agaatctccg | caagaaaggg | gaggctcacc | 1200 |
| acgagctgcc | cccaggggagc | actaagcgt | cactgccc | caacaccagc | tcctctcccc | 1260 |
| agccaaagaa | gaaaccactg | gatggagaat | atttcaccct | tcagatccgt | gggcgtgagc | 1320 |
| gcttcgagat | gttccgagag | ctgaatgagg | ccttggact | caaggatgcc | caggctggga | 1380 |
| aggagccagg | ggggagcagg | gctcacttca | gccacctgaa | gtccaaaaag | ggtcagtcata | 1440 |
| cctccgcaca | taaaaaaactc | atgttcaaga | cagaaggggcc | tgactcagac | tgacattctc | 1500 |
| tacttcttgc | tccccactga | cagcctccca | ccccatctc | tccctccct | gccatttgg | 1560 |
| gttttgggtc | tttgaaccct | tgcttgcaat | aggtgtgcgt | cagaagcacc | caggacttcc | 1620 |
| tattgttttgc | ccccggggct | ccactgaaca | agttggcttg | cactgggttt | ttgttgtggg | 1680 |
| gaggaggatg | gggagtagga | cataccagat | tagattttaa | ggtttttact | gtgagggtat | 1740 |
| tttggggatg | gtaaagaaatg | ttcttgcaat | taagggttag | tttacaatca | gccacattct | 1800 |
| aggttaggtat | gggcccactt | caccgtacta | accagggaa | ctgtccctca | tgttgaat | 1860 |
| tctctaactt | caaggcccat | atctgtgaaa | tgctggcatt | tgcacccatc | tcacagatgt | 1920 |
| cattgtgagg | gttaatgaaa | taatgtacat | ctggcccttga | aaccacccat | tattacatgg | 1980 |
| ggtctaaaac | tttgccccct | tgagggtgcc | tgttccctct | ccctctccct | gttggctgg | 2040 |
| gggttggtag | tttctacatg | ttggcagctg | tttaggtaga | gggagttgtc | aagtcttgct | 2100 |
| ggcccagcaca | aaccctgtct | gacaacccct | tggtcgacc | tagtacccaa | aaggaaatct | 2160 |
| caccccatcc | cacaccctgg | aggatttcat | ctctgtata | tatgtatctg | gatccaccaa | 2220 |
| gacttggttt | atgctcagg | tcaatttctt | tttttttttt | tttttttttt | tttcttttcc | 2280 |
| tttggagactg | ggtctcgctt | ttttggccag | gctggagttgg | agtggcgtga | tcttggctta | 2340 |
| ctgcagccctt | tgcctcccc | gctcgagcg | tcctggctca | gcctccggag | tagtgggac | 2400 |
| cacaggttca | tgccaccatg | gccagccaa | ttttgcattgt | tttgcattgt | ttgggtctca | 2460 |
| cagtgttggcc | caggctggtc | tcaaactct | gggcgtcaggc | gatccaccc | tctcagccctc | 2520 |
| ccagagtgtt | gggattacaa | ttgtgagcca | ccacgtggag | ctggaaagggt | caacatctt | 2580 |
| tacattcttc | aagcacatct | gcattttcac | cccacccctc | ccctccttct | ccctttttat | 2629 |
| atcccatttt | tatatcgatc | tcttatttt | caataaaact | ttgctgcca | | |

<210> 59
<211> 2629
<212> DNA
<213> Homo sapiens

<400> 59

| | | | | | | |
|-------------|-------------|-------------|------------|-------------|-------------|------|
| acttgtcatg | gcgactgtcc | agctttgtgc | caggagcctc | gcaggggttg | atgggattgg | 60 |
| gttttcccc | tcccatgtgc | tcaagactgg | cgctaaaagt | tttgagcttc | tcaaaagtct | 120 |
| agagccaccg | tccagggagc | aggttagctgc | tgggctccgg | ggacactttg | cgttcgggct | 180 |
| gggagcgtgc | tttccacgac | ggtgacacgc | ttccctggat | tggcagccag | actgccttcc | 240 |
| gggtcaactgc | catggaggag | ccgcagtcag | atcctagcgt | cgagccccc | ctgagtcagg | 300 |
| aaacattttc | agacctatgg | aaactacttc | ctgaaaacaa | cgttctgtcc | cccttgccgt | 360 |
| cccaagcaat | ggatgatttg | atgctgtccc | cggacgatat | tgaacaatgg | ttcactgaag | 420 |
| acccaggtcc | agatgaagct | cccagaatgc | cagaggctgc | tccccccgtg | gccccctgcac | 480 |
| cagcagctcc | tacaccggcg | gccccctgcac | cagccccctc | ctggccccc | tcatctctg | 540 |
| tcccttcca | gaaaacctac | cagggcagct | acggttccg | tctgggcttc | ttgcattctg | 600 |
| ggacagccaa | gtctgtact | tgcacgtact | cccctgccc | caacaagatg | ttttgccaac | 660 |
| tggcaagac | ctgcccgtg | cagctgtgg | ttgattccac | accccccggcc | ggcaccccg | 720 |
| tccgcgcatt | ggccatctac | aagcagtca | agcacatgac | ggaggttgg | aggcgtgcc | 780 |
| cccaccatga | gcmcgtctca | gatagcgat | gtctggccc | tcctcagcat | cttatccgag | 840 |
| tggaggaaa | tttgcgtgt | gagttttgg | atgacagaaa | cactttcga | catagtgtgg | 900 |
| tggtgcctta | tgagccgcct | gaggttggct | ctgactgtac | caccatccac | tacaactaca | 960 |
| tgtgtacag | ttcctgcatt | ggcggcatga | accggaggcc | catcctcacc | atcatcacac | 1020 |
| tggagactc | cagtggtaat | ctactgggac | ggaacagctt | tgaggtgcgt | ttttgtgcct | 1080 |
| gtcctggag | agaccggcgc | acagagggaa | agaatctcc | caagaaaggg | gagcctcacc | 1140 |
| acgagctgcc | cccaggggagc | actaagcgag | cactgccc | caacacc | tcctctccc | 1200 |
| agccaaagaa | gaaaccactg | gatggagaat | atttcaccct | tcagatccgt | gggcgtgagc | 1260 |
| gcttcgagat | gttccgagag | ctgaatgagg | ccttggact | caaggatg | caggctggg | 1320 |
| aggagccagg | ggggagcagg | gctcaactca | gccacctgaa | gtccaaaag | ggtcagtcta | 1380 |
| cctcccgcca | aaaaaaactc | atgttcaaga | cagaaggcc | tgactcagac | tgacattctc | 1440 |
| acttcttgc | ccccactgt | cagcctccca | ccccatctc | tccctccct | gccattttgg | 1500 |
| gttttgggtc | tttgaaccct | tgcttgcatt | aggtgtgcgt | cagaagcacc | caggacttcc | 1560 |
| atttgcctt | tccctgggct | caactgaaca | agttggctc | cactgggtt | ttgtgtggg | 1620 |
| gaggaggatg | gggagtagga | cataccagat | tagatttaa | gtttttact | gtgaggatg | 1680 |
| tttggggatg | gtaagaaatg | tttgcgt | taagggttag | tttacaatca | gccacattct | 1740 |
| aggttaggtag | gggcccactt | caccgtacta | accagggaa | ctgtccctca | tggtgaattt | 1800 |
| tcctctaact | caaggccat | atctgtgaaa | tgctggatt | tgcacctacc | tcacagatg | 1860 |
| cattgtgagg | gttaatgaaa | taatgtacat | ctggccttga | aaccacctt | tattacatgg | 1920 |
| ggtctaaaac | ttgaccccc | tgagggtgcc | tgttccctct | ccctctccc | tttggctggt | 1980 |
| gggttggtag | tttctacagt | ttggcagctg | gttaggtaga | gggagttgtc | aagtcttgc | 2040 |
| ggcccgccca | aaccctgtct | gacaacctt | tggtcgacct | tagtacctaa | aaggaaatct | 2100 |
| caccccatcc | cacaccctgg | aggatttcat | ctcttgcata | tgatgatctg | gatccaccaa | 2160 |
| gacttgtttt | atgctcagg | tcaatttctt | ttttttttt | ttttttttt | tttctttt | 2220 |
| tttgagactg | ggtctcgctt | tttgcccag | gctggagtgg | agtggcgtga | tcttggctta | 2280 |
| ctgcagccct | tgcctcccc | gctcgagcag | tcctgcctca | gcctccggag | tagctggac | 2340 |
| cacagggtca | tgccaccatg | gccagccaa | ttttgcattt | tttgcattt | ttgggtctca | 2400 |
| tagtgtgccc | caggctggc | tcaaactct | gggctcaggc | gatccacctg | tctcagcc | 2460 |
| ccagagtgc | gggattacaa | ttgtgagcca | ccacgtggag | ctggaaagggt | caacatctt | 2520 |
| tacattctgc | aagcacatct | gcattttcac | cccacccttc | ccctccttct | cccttttat | 2580 |
| atcccatttt | tatatcgatc | tcttatttt | caataaaact | ttgctgcca | | 2629 |

<210> 60

<211> 2629

<212> DNA

<213> Homo sapiens

<400> 60

| | | | | | | |
|-------------|------------|-------------|------------|------------|-------------|-----|
| acttgtcatg | gcgactgtcc | agctttgtgc | caggagcctc | gcaggggttg | atgggattgg | 60 |
| gttttcccc | tcccatgtgc | tcaagactgg | cgctaaaagt | tttgagcttc | tcaaaagtct | 120 |
| agagccaccg | tccagggagc | aggttagctgc | tgggctccgg | ggacactttg | cgttcgggct | 180 |
| gggagcgtgc | tttccacgac | ggtgacacgc | ttccctggat | tggcagccag | actgccttcc | 240 |
| gggtcaactgc | catggaggag | ccgcagtcag | atcctagcgt | cgagccccc | ctgagtcagg | 300 |
| aaacattttc | agacctatgg | aaactacttc | ctgaaaacaa | cgttctgtcc | cccttgccgt | 360 |
| cccaagcaat | ggatgatttg | atgctgtct | cggacgatat | tgaacaatgg | ttcactgaag | 420 |
| acccaggtcc | agatgaagct | cccagaatgc | cagaggctgc | tccccgcgtg | gccccctgcac | 480 |
| cagcagctcc | tacaccggcg | gccccctgcac | cagccccctc | ctggccccc | tcatctctg | 540 |

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| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|------|
| tcccttcca | gaaaacctac | cagggcagct | acgggttccg | tctgggcttc | ttgcattctg | 600 |
| ggacagccaa | gtctgtact | tgcacgtact | ccccgtccct | caacaagatg | tttgccaaac | 660 |
| tggccaagac | ctgcccgtg | cagctgtgg | ttgattccac | accccccggcc | ggcaccccgcg | 720 |
| tccgcgcat | ggccatctac | aagcagtac | agcacatgac | ggaggttgtg | aggcgctgcc | 780 |
| cccaccatga | gcgctgctca | gatagcgatg | gtctggccccc | tcctcagcat | tttatccgag | 840 |
| tggaaggaaa | tttgcgtgt | gagttttgg | atgacagaaa | cactttcga | catagtgtgg | 900 |
| tggtgcccta | tgagccgcct | gaggttggct | ctgactgtac | caccatccac | tacaactaca | 960 |
| tgtgtacag | ttcctgcatg | ggcggcatga | accggaggcc | catcctcacc | atcatcacac | 1020 |
| tggaagactc | cagtggtaat | ctactggac | ggaacagctt | tgaggtgcgt | gtttgtgcct | 1080 |
| gtcctgggag | agaccggcgc | acagaggaaag | agaatctccg | caagaaagggg | gagcctcacc | 1140 |
| acgagctgcc | cccaggggagc | actaagcgag | cactgcccac | caacaccagc | tcctctcccc | 1200 |
| agccaaagaa | gaaaccactg | gatggagaat | atttcaccct | tcagatccgt | ggggtgagc | 1260 |
| gttgcgat | gttccggagag | ctgaatggg | ccttggact | caaggatgcc | caggctggga | 1320 |
| aggagccagg | gggggacgg | gctcaactca | gccacctgaa | gtccaaaaag | gtcagtctca | 1380 |
| cctccgcaca | aaaaaaactc | atgtcaaga | cagaaggccc | tgactcagac | tgacattctc | 1440 |
| cacttcttgt | tccccactga | cagcctccca | ccccatctc | tccctccct | gccatttgg | 1500 |
| gttttgggtc | tttgaaccct | tgcttgcatt | aggtgtgcgt | cagaaggcacc | caggacttcc | 1560 |
| atttgctttg | tcccggggct | ccactgaaca | agttggctg | cactgggttt | ttgttgtggg | 1620 |
| gaggaggatg | gggagtagga | cataccagct | tagattttaa | ggttttact | gtgagggatg | 1680 |
| tttgggagat | gtaagaaatg | ttcttgcagt | taagggttag | tttacaatca | gccacattct | 1740 |
| aggttaggtag | gggcccactt | caccgtacta | accagggaaag | ctgtccctca | tggtgaattt | 1800 |
| tctctaactt | caaggcccat | atctgtgaaa | tgcttgcatt | tgcacctacc | tcacagagtg | 1860 |
| cattgtgagg | gttaatgaaa | taatgtacat | ctggccttga | aaccacctt | tattacatgg | 1920 |
| ggtctaaaac | ttgacccccct | tgagggtgcc | tgttccctct | ccctctccct | gttggctggt | 1980 |
| gggttggtag | tttctacagt | tgggcagctg | gttaggtaga | gggagttgtc | aagtcttgct | 2040 |
| ggcccagcca | aaccctgtct | gacaacctct | tggtcgacct | tagtacctaa | aaggaaatct | 2100 |
| caccccatcc | cacaccctgg | aggatttcat | ctcttgcata | tgatgatctg | gatccaccaa | 2160 |
| gacttggttt | atgctcagg | tcaatttctt | ttttcttttt | tttttttttt | tttctttttc | 2220 |
| tttggagactg | ggtctcgctt | tggtgcccag | gctggagtg | agtggcgtga | tcttggctta | 2280 |
| ctgcagccct | tgcctccccc | gctcgagcag | tcctgcctca | gcctccggag | tagctggac | 2340 |
| tacagggttca | tgccaccatg | gccagccaa | ttttgcatgt | ttttagaga | tgggtctca | 2400 |
| catgtttgcc | caggctggc | tcaaactcct | gggctcaggc | gatccacctg | tctcagccctc | 2460 |
| cacaggtgtc | gggattacaa | ttgtgagcca | ccacgtggag | ctggaaagggt | caacatctt | 2520 |
| tacattctgc | aagcacatct | gcattttcac | cccacccctc | ccctccttct | cccttttat | 2580 |
| atccccatttt | tatatcgatc | tcttattttt | caataaaaact | ttgctgcca | | 2629 |

<210> 61

<211> 2629

<212> DNA

<213> Homo sapiens

<400> 61

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|------|
| acttgcata | gcgactgtcc | agctttgtgc | caggaggcctc | gcaggggttg | atgggattgg | 60 |
| ggttttccccc | tcccatgtgc | tcaagactgg | cgctaaaagt | tttgagcttc | tcaaaagtct | 120 |
| agagccaccg | tccaggggagc | aggttagctgc | tgggtctccgg | ggacactttg | cgttcgggct | 180 |
| gggagcgtgc | tttccacac | ggtgacacgc | ttccctggat | tggcagccag | actgccttcc | 240 |
| gggttactgc | catggaggag | ccgcgtcag | atccctagctg | cgagccccct | ctgagtcagg | 300 |
| aaacattttgc | agacccatgg | aaactacttc | ctgaaaacaa | ctttctgtcc | cccttgcctg | 360 |
| cccaagcaat | ggatgttttgc | atgtgtcct | cggtacat | tgaacaatgg | ttcactgaag | 420 |
| acccagggtcc | agatgaagct | cccagaatgc | cagaggctgc | tccccccgtg | gccccctgcac | 480 |
| cagcagctcc | tacaccggcg | ccccctgcac | cagccccctc | ctggcccccgt | tcatcttctg | 540 |
| tcccttccca | gaaaacctac | cagggcagct | acgggttccg | tctgggcttc | ttgcattctg | 600 |
| ggacagccaa | gtctgtact | tgcacgtact | ccccgtccct | caacaagatg | tttgccaaac | 660 |
| tggccaagac | ctgcccgtg | cagctgtgg | ttgattccac | accccccggcc | ggcaccccgcg | 720 |
| tccgcgcat | ggccatctac | aagcagtac | agcacatgac | ggaggttgtg | aggcgctgcc | 780 |
| cccaccatga | gcgctgctca | gatagcgatg | gtctggccccc | tcctcagcat | tttatccgag | 840 |
| tggaaggaaa | tttgcgtgt | gagttttgg | atgacagaaa | cactttcga | catagtgtgg | 900 |
| tggtgcccta | tgagccgcct | gaggttggct | ctgactgtac | caccatccac | tacaactaca | 960 |
| tgtgtacag | ttcctgcatg | ggcggcatga | accggaggcc | catcctcacc | atcatcacac | 1020 |
| tggaagactc | cagtggtaat | ctactggac | ggaacagctt | tgaggtgcgt | gtttgtgcct | 1080 |
| gtcctgggag | agaccggcgc | acagaggaaag | agaatctccg | caagaaagggg | gagcctcacc | 1140 |
| acgagctgcc | cccaggggagc | actaagcgag | cactgcccaa | caacaccagc | tcctctcccc | 1200 |

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| | | | | | | |
|-------------|-------------|------------|-------------|-------------|-------------|------|
| agccaaagaa | gaaaccactg | gatggagaat | atttcaccct | tcagatccgt | gggcgtgagc | 1260 |
| gcttcgagat | gttccgagag | ctgaatgagg | ccttggact | caaggatgcc | caggctggga | 1320 |
| aggagccagg | ggggagcagg | gctcaactca | gccacctgaa | gtccaaaaag | ggtcagtcta | 1380 |
| cctcccgcca | taaaaaaactc | atgttcaaga | cagaagggcc | tgactcagac | tgacattctc | 1440 |
| cacttcttgt | ccccactga | cagcctccca | ccccatctc | tccctccct | gccatTTgg | 1500 |
| gttttgggtc | tttgaaccct | tgcttgcaat | aggtgtcggt | cagaaggcacc | caggacttcc | 1560 |
| atttgcttgc | tcccgggct | ccactgaaca | agttggctg | cactgggttt | ttgttgtggg | 1620 |
| gaggaggatg | gggagtagga | cataccagct | tagatTTaa | ggttttact | gtgagggtatg | 1680 |
| tttgggagat | gtaagaaatg | ttcttgcaat | taagggttag | tttacaatca | gccacattct | 1740 |
| aggttaggtag | gggcccactt | caccgtacta | accagggaaag | ctgtccctca | tggtgaattt | 1800 |
| tctctaactt | caaggcccat | atctgtgaaa | tgctggcatt | tgcacctacc | tcacagagtg | 1860 |
| cattgtgagg | gttaatgaaa | taatgtacat | ctggccttga | aaccacctt | tattacatgg | 1920 |
| ggtctaaaac | ttgacccccc | tgagggtgcc | tgttccctct | ccctctccct | gttggctgg | 1980 |
| gggttggtag | tttctacagt | tgggcagctg | gttaggtaga | gggagttgtc | aagtcttgct | 2040 |
| ggcccagcca | aaccctgtct | gacaacccct | tggtcgacct | tagtacctaa | aaggaaatct | 2100 |
| caccccatcc | cacaccctgg | aggatttcat | ctcttgata | tgatgatctg | gatccaccaa | 2160 |
| gacttggttt | atgctcaggg | tcaatttctt | tttttttttt | tttttttttt | tttttttttc | 2220 |
| ttttagactg | ggtctcgctt | tggtgcccag | gctggagttgg | agtggcgtga | tctttggctta | 2280 |
| ctgcagcctt | tgcctccccc | gctcgagcag | tcctgcctca | gcctccggag | tagctggac | 2340 |
| cacaggttca | tgccaccatg | gccagccaac | ttttgcattgt | ttttagagaga | tggggctca | 2400 |
| cagtgttggcc | caggctggtc | tcaaactctt | gggctcaggc | gatccaccc | tctcagccctc | 2460 |
| ccagagtgt | gggattacaa | ttgtgagcca | ccacgtggag | ctggaaagggt | caacatcttt | 2520 |
| tacattctgc | aagcacatct | gcattttcac | cccacccctt | ccctccttct | ccctttttat | 2580 |
| atccccatTT | tatatcgatc | tcttattttt | caataaaact | ttgctgcca | | 2629 |

<210> 62

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<240> 62

| | | | | | | |
|--------------|--------------|-------------|------------|------------|-------------|------|
| atggaaagaac | cacagtcaga | tcctagcgtc | gaaccaccc | tgagtcagga | aaccttttca | 60 |
| gacctgtgga | aattgttcc | tgaaaacaac | gttctgtccc | cattgcctag | tcaagcaatg | 120 |
| gatgatttga | tgctgtcccc | agacgatatt | gaacaatgg | tcactgaaga | tccaggccca | 180 |
| gatgaagctc | cacgaatgcc | agaggccgt | ccacgcgtt | ccccagcacc | agcagctcct | 240 |
| acaccggcgg | ccccagctcc | ggcccccattt | tggcctctgt | catcttctgt | ccctcccttgc | 300 |
| aaaacctacc | agggcagcta | cggtttccgt | ctggccttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgcactt | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctt | gtacacgtgt | ccgcgaatg | 480 |
| gccccatctaca | agcagagcca | gcacatgacg | gaggtcgatc | gacgctgtcc | acaccatgag | 540 |
| cgctgcttag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |
| ctacgcgtgg | agtatctttaga | tgaccgcaac | acttttcgac | acagtgtgg | ggtgcctat | 660 |
| gagccaccag | aagtgggtct | tgactgcacc | accatccact | acaactatat | gtgttaacagt | 720 |
| tcatgcattt | gccccatggaa | ccggcggccg | atccgtacca | tcatcactt | cgaggattcc | 780 |
| tcaggtaatc | tccttaggacg | gaatttctt | gaggtcgatc | tttgcattt | cccgccgc | 840 |
| gatcgccgg | ccgaagagga | gaatctccgg | aagaagggtt | agcctcacca | cgagctgcca | 900 |
| ccaggaagcca | ctaagcgacc | actgccttac | aacaccagca | gttctccaca | gccaagaag | 960 |
| aaacctttgg | acggagaata | tttcaccctt | cagatccgtt | gccgtgagcg | tttcgagatg | 1020 |
| ttccgagagc | tgaatggaggc | tttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccgtt | ctcatagcag | ccacctgaag | tccaaaaagg | gtcagtctac | ctcccgccat | 1140 |
| aaaaaaactga | tgttcaagac | cgaaggctt | gactcagact | ga | | 1182 |

<210> 63

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 63

| | | | | | | | | | | |
|------------|----------|------------|---------|-----|---------|-------|--------|----------|--------|------|
| atggaagaac | cacagtca | tcctagcgtc | gaaccac | ctc | tgagtca | gga | aac | ctttca | 60 | |
| gacctgtg | aa | tgttcc | tgaaa | aca | ac | gtt | ctgtcc | cattgcct | 120 | |
| gatgattt | ga | tgtc | tc | tc | gg | acgat | att | gaac | atgtt | 180 |
| gatgaagct | ca | caat | gtc | cc | cc | agg | ccgt | ccc | cagc | 240 |
| acaccgg | cc | cag | ctcc | gg | cc | ccc | atcc | cc | cc | 300 |
| aaaac | ag | ggc | agct | gg | cc | ttt | ccgt | ttt | cc | 360 |
| tctgttac | tt | at | ctact | tc | cc | cc | cc | ttt | cc | 420 |
| tgccc | act | gtgg | gt | cc | cc | cc | cc | ac | cc | 480 |
| gccatctac | ag | cag | gcca | gc | acat | gac | g | ac | ccat | 540 |
| cgctgctc | at | tct | gtat | tg | t | ctgg | gc | tt | atcc | 600 |
| ctacgcgt | tg | at | tct | ga | tg | acc | ca | ac | gtgt | 660 |
| gagccacc | aa | gtt | gg | tc | ta | ctgc | acc | ac | actat | 720 |
| tcatgc | gg | cc | ggc | at | cc | cc | cc | tc | atct | 780 |
| tcaggt | ta | tc | ctt | gg | at | ttt | gg | tt | gtgc | 840 |
| gatcgcc | cc | ga | gg | aa | at | ctcc | gg | ac | ctcc | 900 |
| ccagga | aa | ct | agc | gt | tc | ccaa | ac | tt | tccaca | 960 |
| aaac | ac | gg | gaga | aa | ttt | cac | cc | cc | gcca | 1020 |
| ttcc | gg | aa | gt | ttt | cac | cc | cc | gg | ggcc | 1080 |
| ggc | cc | cc | gt | ct | cc | cc | cc | gt | ccat | 1140 |
| aaaaaa | act | gt | ca | aa | gg | ttt | cc | ca | tc | 1182 |
| actga | tt | ca | aa | gg | tt | cc | cc | cc | cc | |

<210> 64

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 64

| | | | | | | | | | | |
|------------|----------|------------|---------|-----|---------|-------|--------|----------|--------|------|
| atggaagaac | cacagtca | tcctagcgtc | gaaccac | ctc | tgagtca | gga | aac | ctttca | 60 | |
| gacctgtg | aa | tgttcc | tgaaa | aca | ac | gtt | ctgtcc | cattgcct | 120 | |
| gatgattt | ga | tgtc | tc | tc | gg | acgat | att | gaac | atgtt | 180 |
| gatgaagct | ca | caat | gtc | cc | cc | agg | ccgt | ccc | cagc | 240 |
| acaccgg | cc | cag | ctcc | gg | cc | ccc | atcc | cc | cc | 300 |
| aaaac | ag | ggc | agct | gg | cc | ttt | ccgt | ttt | cc | 360 |
| tctgttac | tt | at | ctact | tc | cc | cc | cc | ttt | cc | 420 |
| tgccc | act | gtgg | gt | cc | cc | cc | cc | ac | cc | 480 |
| gccatctac | ag | cag | gcca | gc | acat | gac | g | ac | ccat | 540 |
| cgctgctc | at | tct | gtat | tg | t | ctgg | gc | tt | atcc | 600 |
| ctacgcgt | tg | at | tct | ga | tg | acc | ca | ac | gtgt | 660 |
| gagccacc | aa | gtt | gg | tc | ta | ctgc | acc | ac | actat | 720 |
| tcatgc | gg | cc | ggc | at | cc | cc | cc | tc | atct | 780 |
| tcaggt | ta | tc | ctt | gg | at | ttt | gg | tt | gtgc | 840 |
| gatcgcc | cc | ga | gg | aa | at | ctcc | gg | ac | ctcc | 900 |
| ccagga | aa | ct | agc | gt | tc | ccaa | ac | tt | tccaca | 960 |
| aaac | ac | gg | gaga | aa | ttt | cac | cc | cc | gcca | 1020 |
| ttcc | gg | aa | gt | ttt | cac | cc | cc | gg | ggcc | 1080 |
| ggc | cc | cc | gt | ct | cc | cc | cc | gt | ccat | 1140 |
| aaaaaa | act | gt | ca | aa | gg | ttt | cc | cc | cc | 1182 |
| actga | tt | ca | aa | gg | tt | cc | cc | cc | cc | |

<210> 65

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 65

| | | | | | | | | | |
|------------|----------|------------|---------|-----|---------|-----|--------|----------|-----|
| atggaagaac | cacagtca | tcctagcgtc | gaaccac | cc | tgagtca | gga | aac | ctttca | 60 |
| gatctgtg | aa | tttcc | tgaaa | aca | ac | ttt | ctgtcc | cattgcct | 120 |

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| | | | | | | |
|-------------|-------------|-------------|-------------|------------|-------------|------|
| gatgatttga | tgctgagccc | agacgatatt | gaacaatgg | tcactgagga | tccaggccca | 180 |
| gatgaagctc | cacgaatgcc | agaggccgt | ccacgcgtt | ccccagcacc | agcagctcct | 240 |
| acaccggcgg | ccccagctcc | ggcccccattc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cggtttccgt | ctgggcttct | tgcattctgg | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgcact | cgcgaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctt | gtacacgtgt | ccgcgcata | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgat | gacgctgtcc | acaccatgag | 540 |
| cgcgtctcg | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgat | ggaaggtaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcaac | acttttcgac | acagtgtgtt | ggtgcata | 660 |
| gagccaccag | aagttggc | tgactgcacc | accatccact | acaactat | gtgttaacagt | 720 |
| tcatgcattgg | gcggcattgaa | ccggcgccg | atccctgacca | tcatcactt | cgaggattcc | 780 |
| tcaggttaatc | tccttaggacg | gaattccctt | gaggtcgat | tttgcattgt | cccgccgc | 840 |
| gatcgccgga | ccgaagagga | gaatctccgg | aagaaagggt | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | gccaagaag | 960 |
| aaaccttgg | acggagaata | tttacccctt | cagatccgtt | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctgttaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaagg | gtcagtctac | ctccgcata | 1140 |
| aaaaaactga | tgttcaagac | cgaaggctt | gactcagact | ga | | 1182 |

<210> 66

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 66

| | | | | | | |
|-------------|-------------|-------------|------------|------------|-------------|------|
| atggaagaac | cacagtca | tccttagcg | gaaccacccc | tgagtcagga | aacctttca | 60 |
| gatctgttga | agcttcttcc | tgaaaacaac | gttctgtccc | cattgcctt | tcaagcaatg | 120 |
| gatgatttga | tgctgagctc | ggacgatatt | gaacaatgg | tcactgagga | tccaggccca | 180 |
| gatgaagctc | cacgaatgcc | agaggccgt | ccacgcgtt | ccccagcacc | agcagctcct | 240 |
| acaccggcgg | ccccagctcc | ggcccccattc | tggcctctgt | catcttctgt | cccttcccag | 300 |
| aaaacctacc | agggcagcta | cgggttccgt | ctgggcttct | tgacattctt | aactgccaag | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgcact | cgcgaaagacc | 420 |
| tgcccagtcc | aactgtgggt | cgactccacc | cctccacctt | gtacacgtgt | ccgcgcata | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgat | gacgctgtcc | acaccatgag | 540 |
| cgcgtctcg | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgat | ggaaggtaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcaac | acttttcgac | acagtgtgtt | ggtgcata | 660 |
| gagccaccag | aagttggc | tgactgcacc | accatccact | acaactat | gtgttaacagt | 720 |
| tcatgcattgg | gcggcattgaa | ccggcgccg | atccgtacca | tcatcactt | cgaggattcc | 780 |
| tcaggttaatc | tccttaggacg | gaattccctt | gaggtcgat | tttgcattgt | cccgccgc | 840 |
| gatcgccgga | ccgaagagga | gaatctccgg | aagaaagggt | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | gccaagaag | 960 |
| aaaccttgg | acggagaata | tttacccctt | cagatccgtt | gccgtgagcg | gttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctgttaa | ggagccagga | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaagg | gtcagtctac | ctccgcata | 1140 |
| aaaaaactga | tgttcaagac | cgaaggctt | gactcagact | ga | | 1182 |

<210> 67

<211> 1182

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 67

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| atggaagaac | cacagtca | tccttagcg | gaaccacccc | tgagtcagga | aacctttca | 60 |
| gatctgttga | agcttcttcc | tgaaaacaac | gttctgtccc | cattgcctt | tcaagcaatg | 120 |
| gatgatttga | tgctgagctc | ggacgatatt | gaacaatgg | tcactgagga | tccaggccca | 180 |

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| | | | | | |
|-----------------------|-------------|------------|------------|-------------|------|
| gatgaagctc cacgaatgcc | agaggccgct | ccaccgggtt | ccccagcacc | agcagctcct | 240 |
| acaccggcg | ccccagctcc | ggccccatcc | tggcctctgt | catcttctgt | 300 |
| aaaacctacc | agggcagcta | cggtttccgt | ctgggcttct | tgcattctgg | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgcacaact | 420 |
| tgcccagttc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggtcgatc | gacgctgtcc | 540 |
| cgctgcttag | attctgatgg | tctggcgcca | ccacagcatc | ttatccgagt | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcaac | acttttcgac | acagtgtgg | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactatat | 720 |
| tcatgcattgg | gcggcatgaa | ccggcgccg | atccgtacca | tcatcactct | 780 |
| tcaggttaatc | tccttaggacg | gaattccctt | gaggtgcgtg | tttgcattgt | 840 |
| gatcgccgga | ccgaagagga | gaatctccgg | aagaaagggt | agcctcacca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacaccagca | gttctccaca | 960 |
| aaacctttgg | acggagaata | tttcaccctt | cagatccgtg | gccgtgagcg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | gttgcggtaa | 1080 |
| ggcagccgtg | ctcatagcag | ccacctgaag | tccaaaaagg | gtcagtctac | 1140 |
| aaaaaactga | gttcaagac | cgaaaggctt | gactcagact | ctcccgccat | 1182 |
| | | | ga | | |

<210> 68

<211> 1181

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 68

| | | | | | |
|---------------------|-------------|------------|------------|-------------|------|
| atggaagaac cacagtca | tcctagcg | ta | gaaccacccc | tgagtcagga | 60 |
| gatctgtg | ga | agcttcttcc | tgaaaacaac | ttctgtccc | 120 |
| gatgatttga | tgctgagccc | agacgatatt | gaacaatgtt | tcaagcaatg | 180 |
| gatgaagctc | cacgaatgcc | agaggccgct | ccacgcgtt | tccaggccca | 240 |
| acaccggcg | ccccagctcc | ggccccatcc | tggcctctgt | catcttctgt | 300 |
| aaaacctacc | agggcagcta | cggtttccgt | ctgggcttct | tttgcattgt | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgcacaact | 420 |
| tgcccagttc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | 480 |
| gccccatcca | agcagagcca | gcacatgacg | gaggtcgatc | gacgctgtcc | 540 |
| cgctgcttag | attctgatgg | tctggcgcca | ccacagcatc | ttatccgagt | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcaac | acttttcgac | acagtgtgg | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactatat | 720 |
| tcatgcattgg | gcggcatgaa | ccggcgccg | atccgtacca | tcatcactct | 780 |
| tcaggttaatc | tccttaggacg | gaattccctt | gaggtgcgtg | tttgcattgt | 840 |
| gatcgccgga | ccgaagagga | gaatctccgg | aagaaagggt | agcctcacca | 900 |
| ccaggaagca | ctaagcgagc | actgccaac | aacacgagct | gttctccaca | 960 |
| aaacctttgg | acggagaata | tttcaccctt | cagatccgtg | gccgtgagcg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | gttgcggtaa | 1080 |
| ggcagccggg | cccattcg | tcacctgaag | tccaaaaagg | gtcagtctac | 1140 |
| aaaaaactga | gttcaagacc | cgaaaggctt | actcagact | tagtcgccc | 1181 |
| | | | a | | |

<210> 69

<211> 1181

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 69

| | | | | | |
|---------------------|------------|------------|------------|------------|-----|
| atggaagaac cacagtca | tcctagcg | ta | gaaccacccc | tgagtcagga | 60 |
| gatctgtg | ga | agcttcttcc | tgaaaacaac | ttctgtccc | 120 |
| gatgatttga | tgctgagctc | ggacgatatt | gaacaatgtt | tcaagcaatg | 180 |
| gatgaagctc | cacgaatgcc | agaggccgct | ccacgcgtt | tccaggccca | 240 |
| acaccggcg | ccccagctcc | ggccccatcc | tggcctctgt | catcttctgt | 300 |
| aaaacctacc | agggcagcta | cggtttccgt | ctgggcttct | tttgcattgt | 360 |

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| | | | | | | |
|---------------|-------------|------------|------------|------------|------------|------|
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgccaact | cgcgaagacc | 420 |
| tgcccagtc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgcgcata | 480 |
| gccatctaca | agcagagcca | gcacatgacg | gaggcgtac | gacgcgttcc | acaccatgag | 540 |
| cgctgctcag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | ggaaggtaac | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcaac | actttcgac | acagtgttgt | gggccatata | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactata | gtgtaacagt | 720 |
| tcatgcattgg | gcggcatgaa | ccggcgccg | atccgtacca | tcatcactct | cgaggattcc | 780 |
| tcaggttaatc | tccttaggacg | gaattccctt | gaggcgtgt | tttgcgtatg | cccgccgc | 840 |
| gatcgccgga | ccgaagagga | gaatctccgg | aagaaagggt | agcctcacca | cgagctgcca | 900 |
| ccaggaagca | ctaagcgagc | actgccaaac | aacacgagct | tttctccaca | gccaagaag | 960 |
| aaaccttgg | acggagaata | tttcaccctg | cagatccgt | gccgtgagcg | tttcgagatg | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | ggagccagga | 1080 |
| ggcagccggg | cccattcgtc | tcacctgaag | tccaaaaagg | gtcagtctac | tagtcgccat | 1140 |
| aaaaaaaaactga | gttcaagacc | gaaggtcctg | actcagactg | a | | 1181 |

<210> 70

<211> 1181

<212> DNA

<213> Artificial Sequence

<220>

<223> Produced by genetic engineering

<400> 70

| | | | | | | | | |
|---------------|-------------|-------------|------------|------------|------|----------|--------|------|
| atggaagaac | cacagtca | tcctagcgtc | gaaccacccc | tgagtca | ggaa | aac | ttttca | 60 |
| gatctgtgga | agttcttcc | tgaaaacaac | gttctgtccc | cattgcctag | tca | agcaat | g | 120 |
| gatgatttga | tgctgagcc | agacgatatt | gaacaatgg | tcactgagga | tcc | aggccc | a | 180 |
| gatgaagctc | cacgaatgc | agaggccgt | ccacgcgtt | ccccagcacc | agc | agctcct | c | 240 |
| acaccggcgg | ccccagctcc | ggcccccattc | tggcctctgt | catcttctgt | cc | cttcccag | g | 300 |
| aaaacctacc | agggcagct | cggtttccgt | ctgggcttct | tgcattctgg | aact | gccaag | a | 360 |
| tctgttactt | gtacgtactc | tccagccctt | aacaagatgt | tttgcctact | cgc | aaagacc | c | 420 |
| tgcccagtc | aactgtgggt | cgactccacc | cctccacctg | gtacacgtgt | ccgc | gcaat | g | 480 |
| gcatctaca | agcagagcca | gcacatgacg | gaggcgtac | gacgcgttcc | acac | catgag | g | 540 |
| cgctgctcag | attctgtatgg | tctggcgcca | ccacagcatc | ttatccgagt | gga | aggtaac | g | 600 |
| ctacgcgtgg | agtatctaga | tgaccgcaac | actttcgac | acagtgttgt | gg | gccatata | t | 660 |
| gagccaccag | aagttggctc | tgactgcacc | accatccact | acaactata | gt | gtaacagt | g | 720 |
| tcatgcattgg | gcggcatgaa | ccggcgccg | atccgtacca | tcatcactct | cg | aggattcc | g | 780 |
| tcaggttaatc | tccttaggacg | gaattccctt | gaggcgtgt | tttgcgtatg | cc | ggccgc | g | 840 |
| gatcgccgga | ccgaagagga | gaatctccgg | aagaaagggt | agcctcacca | cg | agctgcca | g | 900 |
| ccaggaagca | ctaagcgagc | actgccaaac | aacacgagct | tttctccaca | gcca | aaagaag | g | 960 |
| aaaccttgg | acggagaata | tttcaccctg | cagatccgt | gccgtgagcg | tttc | gagatg | g | 1020 |
| ttccgagagc | tgaatgaggc | cttagaactt | aaggatgccc | aggctggtaa | gg | agccagga | g | 1080 |
| ggcagccggg | cccattcgtc | tcacctgaag | tccaaaaagg | gtcagtctac | tagt | cgccat | g | 1140 |
| aaaaaaaaactga | gttcaagacc | gaaggtcctg | actcagactg | a | | | | 1181 |

<210> 71

<211> 1179

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(1179)

<221> misc_feature

<222> (1)...(1179)

<223> n = A,T,C or G

<400> 71

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| atg | gar | gar | ccn | car | nnn | gay | ccn | nnn | gtn | gar | ccn | ccn | ytn | nnn | car |
| Met | Glu | Glu | Pro | Gln | Ser | Asp | Pro | Ser | Val | Glu | Pro | Pro | Leu | Ser | Gln |

1

5

10

15

48

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| | |
|---|-----|
| gar acn tty nnn gay ytn tgg aar ytn ytn ccn gar aay aay gtn ytn Glu Thr Phe Ser Asp Leu Trp Lys Leu Leu Pro Glu Asn Asn Val Leu 20 25 30 | 96 |
| nnn ccn ytn ccn nnn car gcn atg gay gay ytn atg ytn nnn ccn gay Ser Pro Leu Pro Ser Gln Ala Met Asp Asp Leu Met Leu Ser Pro Asp 35 40 45 | 144 |
| gay ath gar car tgg tty acn gar gay ccn ggn ccn gay gar gcn ccn Asp Ile Glu Gln Trp Phe Thr Glu Asp Pro Gly Pro Asp Glu Ala Pro 50 55 60 | 192 |
| nnn atg ccn gar gcn gcn ccn ccn gtn gcn ccn gcn ccn gcn gcn ccn Arg Met Pro Glu Ala Ala Pro Pro Val Ala Pro Ala Pro Ala Ala Pro 65 70 75 80 | 240 |
| acn ccn gcn gcn ccn gcn ccn ccn nnn tgg ccn ytn nnn nnn nnn Thr Pro Ala Ala Pro Ala Pro Ala Pro Ser Trp Pro Leu Ser Ser Ser 85 90 95 | 288 |
| gtn ccn nnn car aar acn tay car ggn nnn tay ggn tty nnn ytn ggn Val Pro Ser Gln Lys Thr Tyr Gln Gly Ser Tyr Gly Phe Arg Leu Gly 100 105 110 | 336 |
| tty ytn cay nnn ggn acn gcn aar nnn gtn acn tgy acn tay nnn ccn Phe Leu His Ser Gly Thr Ala Lys Ser Val Thr Cys Thr Tyr Ser Pro 115 120 125 | 384 |
| gcn ytn aay aar atg tgy car ytn gcn aar acn tgy ccn gtn car Ala Leu Asn Lys Met Phe Cys Gln Leu Ala Lys Thr Cys Pro Val Gln 130 135 140 | 432 |
| ytn tgg gtn gay nnn acn ccn ccn ggn acn nnn gtn nnn gcn atg Leu Trp Val Asp Ser Thr Pro Pro Pro Gly Thr Arg Val Arg Ala Met 145 150 155 160 | 480 |
| gcn ath tay aar car nnn car cay atg acn gar gtn gtn nnn nnn tgy Ala Ile Tyr Lys Gln Ser Gln His Met Thr Glu Val Val Arg Arg Cys 165 170 175 | 528 |
| ccn cay cay gar nnn tgy nnn gay nnn gay ggn ytn gcn ccn ccn car Pro His His Glu Arg Cys Ser Asp Ser Asp Gly Leu Ala Pro Pro Gln 180 185 190 | 576 |
| cay ytn ath nnn gtn gar ggn aay ytn nnn gtn gar tay ytn gay gay His Leu Ile Arg Val Glu Gly Asn Leu Arg Val Glu Tyr Leu Asp Asp 195 200 205 | 624 |
| nnn aay acn tty nnn cay nnn gtn gtn gtn ccn tay gar ccn ccn gar Arg Asn Thr Phe Arg His Ser Val Val Val Pro Tyr Glu Pro Pro Glu 210 215 220 | 672 |
| gtn ggn nnn gay tgy acn acn ath cay tay aay tay atg tgy aay nnn Val Gly Ser Asp Cys Thr Thr Ile His Tyr Asn Tyr Met Cys Asn Ser 225 230 235 240 | 720 |
| nnn tgy atg ggn ggn atg aay nnn nnn ccn ath ytn acn ath ath acn Ser Cys Met Gly Gly Met Asn Arg Arg Pro Ile Leu Thr Ile Ile Thr 245 250 255 | 768 |
| ytn gar gay nnn nnn ggn aay ytn ytn ggn nnn aay nnn tgy gar gtn Leu Glu Asp Ser Ser Gly Asn Leu Leu Gly Arg Asn Ser Phe Glu Val 260 265 270 | 816 |

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| | |
|---|------|
| nnn gtn tgy gcn tgy ccn ggn nnn gay nnn nnn acn gar gar gar aay | 864 |
| Arg Val Cys Ala Cys Pro Gly Arg Asp Arg Arg Thr Glu Glu Glu Asn | |
| 275 280 285 | |
| ytn nnn aar aar ggn gar ccn cay cay gar ytn ccn ccn ggn nnn acn | 912 |
| Leu Arg Lys Lys Gly Glu Pro His His Glu Leu Pro Pro Gly Ser Thr | |
| 290 295 300 | |
| aar nnn gcn ytn ccn aay aay acn nnn nnn nnn ccn car ccn aar aar | 960 |
| Lys Arg Ala Leu Pro Asn Asn Thr Ser Ser Ser Pro Gln Pro Lys Lys | |
| 305 310 315 320 | |
| aar ccn ytn gay ggn gar tay tty acn ytn car ath nnn ggn nnn gar | 1008 |
| Lys Pro Leu Asp Gly Glu Tyr Phe Thr Leu Gln Ile Arg Gly Arg Glu | |
| 325 330 335 | |
| nnn tty gar atg tty nnn gar ytn aay gar gcn ytn gar ytn aar gay | 1056 |
| Arg Phe Glu Met Phe Arg Glu Leu Asn Glu Ala Leu Glu Leu Lys Asp | |
| 340 345 350 | |
| gcn car gcn ggn aar gar ccn ggn ggn nnn nnn gcn cay nnn nnn cay | 1104 |
| Ala Gln Ala Gly Lys Glu Pro Gly Gly Ser Arg Ala His Ser Ser His | |
| 355 360 365 | |
| ytn aar nnn aar aar ggn car nnn acn nnn nnn cay aar aar ytn atg | 1152 |
| Leu Lys Ser Lys Lys Gly Gln Ser Thr Ser Arg His Lys Lys Leu Met | |
| 370 375 380 | |
| tty aar acn gar ggn ccn gay nnn gay | 1179 |
| Phe Lys Thr Glu Gly Pro Asp Ser Asp | |
| 385 390 | |